

SCIENCE ABSTRACTS.

SECTION A.—PHYSICS.

SUBJECT INDEX.

VOL. XXVII.

1924.

Issued by

THE INSTITUTION OF ELECTRICAL ENGINEERS,

SAVOY PLACE, VICTORIA EMBANKMENT, LONDON, W.C. 2.

Compiled and Edited by the Institution, in association with

THE PHYSICAL SOCIETY OF LONDON and the

AMERICAN PHYSICAL SOCIETY.

With the Co-operation of

THE AMERICAN INSTITUTE OF ELECTRICAL ENGINEERS and the

ASSOCIAZIONE ELETTROTECNICA ITALIANA.



LONDON:

E. & F. N. SPON, LIMITED, 57, HAYMARKET, S.W.

NEW YORK:

SPON & CHAMBERLAIN, 120, LIBERTY STREET.

SCIENCE ABSTRACTS

SECTION A—PHYSICS

ERRATA.

Section A.—PHYSICS.

Yearly Name Index, 1923, p. 1029, line 19, Chemical Constant of Hydrogen, 2467, the author should be F. Simon.

1924.

Abstract No. 107, line 1, should read "lengths of α -Rays."

Abstract No. 172, line 1: for Q. Majorana, read S. Magrini; and line 3: for Ann. Chem. Phys., etc., read Abstract 616 (1904).

Abstract No. 298, line 1: for C. E. Lane, read C. E. Lane.

Abstract No. 475, line 1: for Q. E. Mourashkinsky, read B. E. Mourashkinsky.

Abstract No. 596, line 1: for Enwright, read Enright.

Abstract No. 1376, line 2: for Bikowski, read Bokowski.

Abstract No. 1567, line 1: for Wasik, read Waszik.

Abstract No. 2051, line 1: for Moffit, read Moffitt.

Abstract No. 2324, line 2: for 43, read 44.

Abstract No. 2395, line 2: for Picou, read Picon.

Abstract No. 2398, line 1: for H. C. Deming, read H. G. Deming.

Abstract No. 2576, line 2: for A. Schaefer, read C. Schaefer.



SUBJECT INDEX.

SECTION A.—PHYSICS.

To facilitate reference to any desired subject the Index is divided into the following sections arranged alphabetically. If any of these are absent this may be taken as an indication that no Abstracts dealing with these particular subjects have been included in this volume.

The numbers refer to Abstracts; if the letter B follows a number the Abstract will be found in Section B of "Science Abstracts" under that number.

In General Physics:—Apparatus and Instruments; Astronomy; Crystals and Crystal Structure; Density; Diffusion; Dynamics and General Mechanics; Elasticity; Gravitation; Measurements and Use of Instruments; Meteorology, &c.; Miscellaneous; Molecular Physics, Matter and Ether; Pressures (high and low); Relativity; Surface Tension; Terrestrial Physics; Theories; Viscosity.

In Light:—Absorption (light and heat); Dispersion; Interference; Lenses and Optical Systems; Measurements and Use of Instruments; Miscellaneous; Phosphorescence and Fluorescence; Photography; Photometry; Polarisation (including Magnetic Rotation); Radio-activity; Rays and Radiation (Light); Reflection of Light; Refraction of Light; Spectra; Vision; X-Rays; Zeeman Effect and Radiation in an Electric or Magnetic Field.

In Heat:—Absorption; Conductivity; Critical Points and Constants; Dilatation; Freezing, Melting, and Boiling-Points; Gases and Vapours; Measurements and Use of Instruments; Miscellaneous; Radiation (Heat), Convection, and Emissivity; Specific Heat and Latent Heat; Temperature; Thermodynamics (high and low); Thermodynamics; Thermometry, Pyrometry, and Calorimetry; Vapour Pressure.

In Sound:—All Abstracts referring to this subject have been indexed under *Sound*.

In Electricity and Magnetism:—Alternate-Current Research; Apparatus and Instruments (descriptive); Capacity (electrostatic); Conductivity (Electric) and Resistivity; Dielectrics; Discharge in Gases and in Vacuum; Electromagnetic Theory; Electro-Physiology, Electro-Therapeutics, Radio Therapy, and Radiography; Inductance (self and mutual); Ionisation and Dissociation of Gases; Magnetism; Measurements and Use of Instruments; Miscellaneous; Oscillations and Waves; Photo-Electricity; Polarisation (electric waves); Polarisation (electrolytic); Resonance; Static and Atmospheric Electricity; Terrestrial Magnetism and Electricity; Thermionic and Electronic (Thermal) Emission; Thermo-Electricity and Thermo-Magnetism.

In Chemical Physics:—Absorption; Alloys; Batteries (primary); Batteries (secondary); Chemical Equilibrium and Reactions; Dissociation and Ionisation (excluding Gases) Electric Furnace Processes; Electrolysis; Electrolytic Analysis; Metallurgy and Properties of Metals; Miscellaneous; Osmosis; Solution and Solubility.

Absorption (Chemical Physics).

Abstract Nos.

Adsorption. J. Frenkel	2844
" and Kataphoresis. K. v. d. Grinten	2842
" and the Schulze-Hardy Law. N. R. Dhar, K. C. Sen and S. Ghosh	1940
" Forces and their Electrical Nature. B. Ilin	2848
" " Electrical Nature of. W. Tarassoff	3069
" from the Gas-phase at a Liquid Gas Interface. T. Iredale	2847
" of Binary Mixtures by Animal Charcoal and Comparative Study of the Adsorptive Power of Different Varieties of Charcoal. N. A. Yajnik and T. C. Rana	1947
" of Hydrogen by Nickel. A. W. Gauger	1620
" of Polonium by Colloids. J. H. Brennen	2843
" of Vapours by Charcoal. A. S. Coolidge	1942
Adsorptive Capacity of Wood Charcoal. J. C. Philip and J. Jarman	1943

Absorption (Chemical Physics), <i>continued</i>.	
Bounding Surfaces, Gas-Liquid. A. Frumkin	3068
Carbon, Finely Divided, Nature of Adsorptive Power of. J. R. Katz	1008
Charcoal, Adsorption of Air by. J. Sameshima and K. Hayashi	2382
Charcoals and other Properties, Hydrogen Content of. H. H. Lowry	1941
Coheser to investigate Adsorption Films, Use of. W. G. Palmer	2850
Colloidal Sols, Protecting and Sensitising. E. K. Rideal	2612
Copper Sulphate Solutions, Applicability of Beer's Law to. R. Mecke and H. Ley	3072
Gases, Studying Rapid Absorption of, by liquids. P. G. Ledig and E. R. Weaver	1592
Gels and Theory of Adsorption. N. E. Gordon	1593
Glass Surfaces, Behaviour of Gases in Contact with. D. H. Bangham and F. P. Burt	1590
Hydration Process, Discontinuity of. W. A. Davis and J. V. Eyre	678
Rubber, Rate of Absorption of Water by. D. H. Andrews and J. Johnston	1591
Surface Activity of Solutions, Influence of Temperature and Concentration on. P. Reh binder	3071
Energy Data, Interpretation of. G. M. Bennett	1998

Absorption (Light and Heat).

Absorption Coefficients, Determination of, and Statistical Equilibrium in Relation to the Photoelectric Effect. E. A. Milne	833
of Lithium Vapour. A. L. Narayan and D. Gunnayya	2845
of Radiation within a Star. S. Rosseland	2462
Series from Phosphores. F. Schmidt	2496
Spectra of Vanadium, Titanium, and Scandium. H. Gieseler and W. Grotian	2846
Correspondence Principle for. J. H. van Vleck	2849
Acids and their Salts, Absorption of. J. C. Ghosh and S. C. Biswas	1752
Atmospheric Absorption and Diffusion on Signal Lights and Projectors, Effect of. E. Karrer	1409
Blackened Surfaces, Absorption Capacity of. G. Michel and A. Kussmann	571
Bohr's Quantum Theory, Absorption and Dispersion in. R. Becker	2925
Colour in Rock-Salt due to X-rays, Change of. P. Ludewig and F. Reuther	2519
Match and Spectral Distribution. W. E. Forsythe	1416
Mixture. M. Luckiesh	243
Transformation Diagrams, Calculation of. Clara L. Froelich	2711
of the Sea. K. R. Ramanathan	456
W. Shoulejkin	242, 2241
Production, Theory of. J. Stieglitz	677
Determination of, in Terms of Dominant Wave-length, Purity, and Brightness. I. G. Priest	1418
Coloured Flames, Automatic Feeder for. J. J. Manley	2047
Colours of Colloids. B. Ray	2242
of Crystals of Chlorate of Potash. L. A. Ramdas	2240
produced by Rotation of the Plane of Polarisation. C. Pulfrich	2256
Copper Sulphate Solutions, Applicability of Beer's Law to. R. Mecke and H. Ley	3072
Dyed Threads, Spectro-Photometric Examination of. G. P. Woronkoff	1414
Films, Thin Opaque Metallic, Production of, and their Optical Properties. F. Rother and K. Lauch	1123
Fluorescence, Spectrophotometric Definition of Colours of. H. George and E. Bayle	2268
Fluorescent Rhodamin B, Optical Properties of. A. Poritsky	2264
γ -Rays, Absorption and Scattering of. N. Ahmad and E. C. Stoner	2532
Hard, Absorption of. N. Ahmad	2633
Homogeneous X-rays between Wave-lengths 0.1 Å. and 0.71 Å. S. J. M. Allen	2278
Infra-red Absorption Measurements, Quantitative, and Molecular Structure. J. Lecomte	2756
Radiations, Permeability of Synthetic Resin to. G. Kimpflin	2036
Ionised Gas, Opacity of. J. Q. Stewart	452
Metal Films, Opaque, Optical Constants of. K. Lauch	1756
Night Sky, Light of. (Lord) Rayleigh	2947
Opalescence, Critical. A. Andant	2472

For the Explanation of this Index see p. 1154.

Absorption (Light and Heat), <i>continued</i>.	
Opalescence, Critical, of Carbon Dioxide. D. K. Bhattacharyya	2473
Ostwald Double-Colour Cone. O. Meissner	822
Parallel Plates, Reflection and Transmission by. F. Benford	1148
Photochemistry, First Law of. Muriel C. C. Chapman	2741
Photoelectric Transmissometry, Direct Reading. K. S. Gibson	480
Plates, Mixed, Colours of. K. S. Rao	2251
Pressure, Effect of, upon Optical Absorption. F. G. Wick	72
Radiation from Combustible Gases. A. Schack	2267
Röntgen Rays, Absorption of, <i>see</i> section Rays.	
Sea, Colour of. R. Gans	2710
Smoke, Opacity of. O. F. T. Roberts	735
Sodium Vapour, Absorption of Light by. F. H. Newman	63
Space, Light Absorption in. A. Kopff	2029
Spectra, Absorption, <i>see</i> separate section.	
Celestial, Absorption Bands in. F. E. Baxandall	2467
Transparent Plates, Passage of Light through. A. Schuster	2949
Turbid Media, Optical Properties of. Margarete Weiler	2244
Tyndall Blue in Solids. W. D. Bancroft	1411
Ultra-violet Rays, Absorption of, by CS ₂ . G. Bruhat and M. Pauthenier	2713
Alloys, <i>see also</i> section Metallography.	
Alloys, Certain, Lattice Structure of. S. Holgersson and E. Sedström	2905
Copper-Zinc, which Expand on Solidification. K. Iokibe	1277b
Thermal Conductivity of. H. M. Williams and V. W. Bihlman	2535
Binary Metallic Alloys, Electric Conductivity in. M. Perani and J. Runge ..	2331
Bismuth Alloys, Thermoelectric Properties of. C. R. Darling and R. H. Rinaldi	2591
Coefficients of Expansion of Metals and Alloys. J. N. Friend and R. H. Vallance	2584
Copper-Aluminium Alloys, X-ray Studies of. E. R. Jette, G. Phragmén and A. F. Westgren	2790
Density, Rate of Cooling, and Composition of Metals and Alloys. R. C. Reader	1610
Electrical Properties of Alloys at High Temperatures. M. A. Hunter and A. Jones	1028
Electrolytic Alloys, <i>see</i> section Electrolysis.	
Hardness of Copper Alloys, Effect of Temperature on. L. Guillet	2181
Heat and Acid Resisting Alloys (Ni-Cr-Fe). J. F. Kayser	350
Invar and related Nickel Steels	354
Iron and Steel, <i>see</i> section Metallography.	
Carbon Alloys, Pure, Critical Ranges of. J. F. T. Berliner	2621
Silicon Alloys, Constitution of. K. Honda and T. Murakami	352
Electrolytic, with Carbon and Manganese, Vacuum-fused Alloys of. R. P. Neville and J. R. Cain	1027
Kathodic Behaviour of Alloys. S. Glasstone	3082
Magnetic Properties of Alloys, <i>see</i> section Magnetism.	
Metallography <i>see</i> separate section.	
Metals and Alloys on Bohr's Theory, Electrical Conductivity of. K. Højendahl	2835
Nickel Alloys, Thermoelectric Investigation of. W. Rohn	2838
Platinum Alloys. F. E. Carter	1307
E. Wichers and L. Jordan	1308
Structure of Alloys, Inner. W. Rosenhain	2180
X-ray Analysis of Solid Solutions. E. A. Owen and G. D. Preston	1031
of Zinc-Copper Alloys. E. A. Owen and G. D. Preston	1032
Alternate-Current Research.	
Alternating-Current Circuit, New Theory of. S. Fryze	2340
in Massive Iron Conductors. K. Zickler	2341
Tensions, very Weak, in Grid Circuits, Use of Audion for Absolute Measurement of. Angelika Székely	330
Arc, Electric, <i>see also</i> section Discharge.	
Auto-Transformer and Impedance as a Tensor. W. H. Ingram	2344
Braun Tube Diagrams, Determining Sense of Rotation of. K. Seiyama	1923
Circular Cubics, Singular Points of. H. Pfeiffer-Haertel	2657
Eddy-Current Losses in Massive Iron. A. Lang	656
Electrical Diagrams in Three Dimensions. J. Wotschke	2155
For the Explanation of this Index <i>see</i> p. 1154.	

	Abstract Nos.
Alternate-Current Research, continued.	
Electrodynamic and Electromagnetic Induction in Moving Continuous Media.	
L. Roy	3019
Ferromagnetic Constants for Weak Alternating Fields. H. Jordan	2840
Field at Great Distance produced by High-Frequency Current in a Straight Conductor. J. Bethenod	3060
Forces Between Coils with Radio Frequency. W. A. Parlin	657
Impedance Theorem, Campbell's Driving-point. R. M. Foster	2343
Impedances, Mutual, of Earthed Circuits. G. A. Campbell	1291
Inductance Coils of Polygonal Form, Formulae for. F. W. Grover	639
Kennelly's Theorem of Constant Ratio of Mean to Mid-Potential or Current.	
A. E. Kennelly	658
"Leader Cable." S. Butterworth	2154
" " C. V. Drysdale	2153
Measurements, <i>see</i> separate section.	
Mechanical Computation of Root Mean Square Values. L. A. Umansky	145
Networks carrying Alternating Currents under Steady Conditions. C. Ravut.	468B
Steady Alternating Currents, Properties of. C. Ravut.	790B
Oscillations, Undamped Electric, of Small Frequencies, Production of. R. Pohl	1555
Polar Oscillograms. A. G. Beliavsky	985
Power, Apparent, and Power Factor in Polyphase Circuits. H. Schering	2339
Proximity Effect in Wires and Thin Tubes. H. B. Dwight	28B
Reactances and Capacity Problems, Treatment of. L. Fleischmann	788B
Rotating Currents. E. Persico	983
Skin Effect in Tubes. K. Försterling	1927
M. Wien	1928
Speed of Propagation of Electricity. C. Gutton	3020
Transmission Line Transients. V. Bush	201B
Triode Oscillator, Stability of Periodic States of. W. M. H. Greaves	1557
Triodes, Theory of, as A. C. Commutators. N. Shuttleworth	655
Vector Diagrams and Algebraic Signs. H. Kafka	2152
Wave-Form by Means of the Braun Tube. L. Casper, K. Hubmann and J. Zenneck	1926
"Forms with the Cathode-Ray Oscillograph.	2151
Apparatus and Instruments.	
Acoustic Probes. Z. Carrière	1346
Actinograph, Improved. A. W. Clayden	393
Actinometer. Henry	779
" to measure Ultra-Violet Radiation. B. Szilard	1425
Aeronautic Instruments. F. L. Hunt	196
Arc Lamp, Sodium Potassium Vapour, Potential Gradient in. F. H. Newman	1278
Astrolabe, Moving-Wire. V. Michkovitch and E. Mallein	2403
" Prismatic, Design of. T. Y. Baker	1140
Automatic Feeder for Coloured Flames. J. J. Manley	2047
Balance, Chain. F. Petrie	373
" Direct-Reading. R. Fortrat	374
" Registering Form of. W. Braunbek	177
Barometer, Standard, of New Design. T. H. Laby	2881
Braun Tube to demonstrate the Detector Action of a Triode. W. Schmitz	1554
Calorimeter for Heats of Mixing at Elevated Temperatures. B. H. Carroll and J. H. Mathews	1214
" Iron-Mercury. F. H. Schofield	1213
Camera, High-Speed, for Study of Projectiles. H. L. Curtis, W. H. Wadleigh and A. H. Sellman	2406
Candle Power, Spherical, Apparatus for determining. J. Sahulka	62
Capacity, particularly for Radio-frequency Currents, Standards of. J. B. Dempster and E. O. Hulburt	640
Chronometer, Phonic. A. B. Wood and J. M. Ford	1661
Clock, Electric, with Continuous Motion. A. Stewart	203B
Clocks and Time-Keeping, Studies in. Part III. R. A. Sampson	1984
Coefficients of Expansion of Metals and Alloys. J. N. Friend and R. H. Vallance	2534
Coil, giving Intense Magnetic Fields. Magnetic Saturation of Iron. R. Fortrat and P. Dejean	668
For the Expansion of this Index see p. 1154.	

Apparatus and Instruments, continued.	
Coil, Rotatable, Carrying Alternating Current in Radial Homogeneous Magnetic Field, Motion of. C. Weisglass	659
Condenser Apparatus for Röntgen Requirements, Theory of. M. Jona	3023
Constant-frequency Oscillator. R. Gunn	2140
Densimeter, Selenium Optical. E. V. Hjort, A. Lowy and O. Blackwood	2722
Densities, Photographic, Photoelectric Microphotometer for. J. O. Perrine	1426
Densitometer, Simple, for Accurate Work. G. R. Harrison	372
Density Meter, Ferguson Photographic. W. B. Ferguson	1333
Photographic. F. C. Toy and S. O. Rawling	1408
Dewar Flasks for Liquid Air, Tests upon. H. Briggs and J. Mallinson	742
Dilatometer, Double-Mirror, for Low-Temperature Work. G. Borelius and C. H. Johansson	2797
Dividing Engine, Circular, of Edward Troughton, 1793. D. Baxandall	2407
Dosimeter for Penetrating X-rays. A. Dauvillier	862
Eindhoven Galvanometer, Temperature Measurement with. F. Adcock and E. H. Wells	564
Electrodynamometers, Absolute, Theory of. H. Hermann	978
Electromagnet, New. H. Boas and T. Pederzani	988
Electrometer with Triode Valve and Atmospheric Gradient. P. Lejay	1921
New. F. A. Lindemann, A. F. Lindemann and T. C. Keeley	1288
New Type of. B. Szilard	2335
Electron Tubes, Capacities of. E. Schrader	3059
Electrostatic Relay, Rectification with: Contact Detectors. W. Kramer	3026
Expansion of Glass, Recording Apparatus for. A. Arnulf	2798
Extensometer Amplifier. S. R. Williams	377
Fluxmeter, Grassot. G. Darmais and G. Ribaud	2336
Focus Finder for Ultra-Violet Photomicrography. W. T. Bovie and C. E. Barr	1430
Furnaces, Granular Carbon Resistance. M. M. Austin	1627
Galvanometer, Moving-Coil, of Rapid Indication. W. J. H. Moir	642
Gas-Meter, Thomas	2405
Gases and Vacua, Apparatus for Experiments with. E. Brüche	1663
Heat produced by Radio-active Substances, Apparatus for measuring. D. Yovanovitch	2799
Heating Electrically in <i>vacuo</i> to a High Temperature. P. Lebean and M. Picon	2395
Heats of Solution, Calorimeter for Adiabatic Determination of. E. Cohen	2998
A. L. T. Moesveld and W. D. Helderman	2998
Hydrometer, Total Immersion Indicating. A. Pollard	1334
Illuminator and Reflectometer, Combined. G. A. Shook	2731
Instruments for Physical Measurements. W. H. Tschappat	714
Interferometer, Lummer-Gehrcke Parallel Plate. F. Simeon	2732
Twyman's. K. Butkow	1760
Universal. A. E. H. Tutton	476
Interrupters, Rotary and the J.L.P. Interrupter. J. Levêque-Petit	1919
Kata Thermometer, New Recording. E. H. J. Schuster	565
Levelling Instruments using Reversible Bubbles, New Types of. T. F. Connolly	1348
Limit-Gauge for Rainfall. F. J. W. Whipple	1088
Liquids of High Boiling-Points, Apparatus for Heat of Evaporation of. J. H. Awbery and E. Griffiths	2539
McLeod Gauge, Modified. D. L. Hay	397
Magnetometer, Portable. J. H. Shaxby	1939
Manometer of High Sensitivity. L. Heis	2882
Bifilar Quartz Fibre. A. S. Coolidge	1345
Constant Precision. A. F. Zahm	2883
Ionisation. H. Simon	2409
Melting- and Freezing-Points, Apparatus for determining. E. W. Washburn	1843
Mercury Lamp with Low Voltage and Low Wattage. E. L. Harrington	326
Capillary. J. H. Vincent and G. D. Biggs	1690
Vapour Lamp, Self-exhausting. H. P. Waran	398
Micrometer, Auto-Registering Optical, for Prism Astrolabe. R. Baillaud	2041
Lewbeck Projection	1986
New Ocular. H. Kellner	367
Micro-Photometer, Registering. M. Siegbahn	2404
Microscope, Corneal. E. F. Fincham	2247

For the Explanation of this Index see p. 1154.

Abstract Nos.

For the Explanation of this Index see p. 1154.

V.27
1924

Apparatus and Instruments, continued.		Abstract Nos.	
Quartz Fibres, Preparation and Silvering of.	T. C. Keeley	2888	
Radiometer.	A. Einstein	2724	
"	G. Hettner	2726	
"	Construction, Improved.	J. D. Tear	2031
"	Clinical X-ray Balance.	L. H. Clark	2841
" Radium"	Recording Devices.	J. H. Powell	1828
Reaction Heats at High Temperatures, Calorimeter for Measurement of.	J. D. Davis	2997	
Recorder, Vibration.	C. G. Beall and C. I. Hall	1985	
Recorders, Humidity.	E. B. Wheeler	2410	
"	Optical Rate of Climb.	A. H. Mears and D. H. Strother	2730
Recording Drum.	C. V. Boys	567	
"	Ionisation and other Curves, Automatically, Apparatus for.	P. Knipping	198
Rectifier, Glow Discharge, for Alternating Current.	H. Kneser	609	
Refractometer, Pulfrich, Improved Temperature Control for.	T. M. Lowry and R. G. Parker	478	
Relative Rate of Two Pendulums, Mechanical Determination of.	A. Guillet	401	
Relay, New.	H. A. Thomas	644	
Sector-Disc, Variable Aperture Rotating.	H. E. Ives	451	
Seismometer, Torsion.	J. A. Anderson and H. O. Wood	2889	
Separation of Metals, Electrolytic, Apparatus for.	A. Lassiur	1047	
Shunt, Compensated, for Use with a Vibration Galvanometer.	H. Schering and G. Reichardt	1286	
Slide-rule for Complex Numbers.	J. Spielrein	2402	
Solubilities, Apparatus for Accurate Determination of.	E. Cohen, W. A. T. de Meester and A. L. T. Moesveld	3079	
Spark Apparatus.	C. Leiss	2038	
"	Gap with Air-cooled Electrodes.	W. T. Bovie	620
Spectrograph, Double, for the Far Ultra-Violet.	P. Lambert, G. Déjardin and D. Chalonge	2482	
"	Müller X-ray	860	
"	Quartz, for Wave-lengths to 1850 Å.	E. O. Hulbert	2050
"	Six-Prism Glass.	J. S. Foster	1429
"	Vacuum Grating, and Zinc Spectrum.	R. W. Wood	527
"	Victoria, Optical Parts of.	J. S. Plaskett	1428
Spectrometer Table.	B. J. Spence	501	
"	New Tri-Colour Mixing.	F. Allen	2045
String Electrometer, Lutz, New Form of.	T. Wulf	1573	
"	Galvanometer, Revolving Mirror for Use with.	A. Forbes and D. W. Mann	3058
Stroboscope, Vibrating Filament.	A. Bertrand	1980	
Surface Tension Balance.	R. G. Green	182	
Surveying and Navigational Instruments.	L. C. Martin	467	
Telescopes, Early, in Science Museum.	D. Baxandall	468	
Telescopic Adjustments enabling Variable Magnification.	L. Dunoyer	2727	
Temperature Measurement, Spectral.	F. Patzelt	289	
Thermometers, <i>see also</i> section Thermometry.			
Thermopile for Measuring Radiation.	W. J. H. Moll	327	
Thermostat for Series of Temperatures.	H. Cardot, H. Langier and R. Legendre	1215	
"	Refrigerator.	K. C. D. Hickman	891
"	Regulator.	E. Schreiner, J. Holtsmark and B. Trumpy	2408
Tide Predictor, German.	H. Rauschelbach	2936	
Tube Photometer in Spectrophotometry, Application of.	K. Schaum and W. Henss	2481	
Tuning-Fork, Clock-controlled, for Constant Frequency.	J. G. Ferguson	1353	
"	Electric, as A.C. Generator, Measurements with.	S. Timpanaro	982
Vacuum Tubes.	J. J. Manley	2302	
Variable Inductance Coils for Audio Frequencies.	H. Winter-Göthner and J. Zenneck	2160	
Viscometer, Reliable Works.	M. Marasco	1343	
"	Simple, for Gases.	A. O. Rankine	1344
Viscometers, Capillary Tube.	G. Barr	1342	
Voltmeter, Neon Lamp.	L. E. Ryall	1925	

For the Explanation of this Index see p. 1154.

Apparatus and Instruments, continued.

Volumes, Measured Small, of Liquid, Delivery of.	E. Möller	1964
Water-Vapour in Closed Pipes, Detector for.	E. R. Weaver and P. G. Ledig	195
Wave-length Reader for Grating Spectra.	J. A. Anderson	1472
"Motion Models having "Dispersion" and "Filter" Properties.	T. B. Brown	1372
X-ray Goniometer, New.	K. Weissenberg	1810
"Intensimeter, Direct-Reading.	P. Lertes	533
"Spectrograph, Vacuum.	P. A. Ross	526

Astronomy.

Aberration and Absolute Motion. R. Tomaschek	2207
Absorption of Radiation within a Star. S. Rosseland	2462
Algol System, Spectrographic Study of. D. B. McLaughlin	2943
" Type Variables. Michcovitch	1115
Asteroids, General Orbits of Trojan Group of. E. W. Brown	55
Atmospheric-Electric Observations during Total Solar Eclipse. H. F. Johnston	1533
" Aurigæ, Radial Velocity of. H. Ludendorff	1745
Aurora, Sunspots, and Magnetic Variations during 1921. W. E. W. Jackson	778
Beta Lyrae. R. A. Rossiter	2942
Binaries and Single Stars, Comparison of Average Velocity of. J. H. Oort	1739
Calcium Atom, Excited, Astrophysical Determination of Life of. E. A. Milne	1726
Cancer, X and T, Photometric Variation of. S. Aurino	1748
Capella. A. S. Eddington	1109
CG Cygni, Light-Curve and Orbit of. Ch'ing-Sung Yu	231
Charcoal, Adsorption of Air by. J. Sameshima and K. Hayashi	2382
Chromosphere of Resonance Lines, Height in. F. Croze	1165
Cloud, Smaller Magellanic, Distance and Dimensions of. H. Shapley	2465
Comets, Diffusion Theory of. H. Mache	1733
Corona, Photometric Intensity of, at Eclipse of 1922, Sept. 21, at Wallal. A. D. Ross	2455
Cosmical Refraction. L. Courvoisier	2218
Declinations of 526 Stars. S. G. Barton	52
" of 336 Stars. S. G. Barton	233
Disturbed Kepler Motion, Course of Motion and Quantum States of. W. Lenz	2430
Double Stars discovered since 1905 made at the Lille Observatory and at the Royal Observatory, Greenwich, Measures of. R. Jonckheere	2460
" Stars, Interferometer Measurement of. M. Maggini	797
" " Measurements of. M. Maggini	1731
" " Spectral Types and Colour Indices of Components of. G. Abetti	1743
Einstein Expedition, American, Results of. J. Hopmann	803
Equi-altitude Measurement by Photography. R. Baillaud	1769
Equinox and Equator Point, Corrections to, from Observations of Venus. J. Jackson	2217
Flocculi, Solar Calcium, Distribution of. C. P. Butler	1103
Giant Stars, Behaviour of Hydrogen Lines in. K. T. Compton and H. N. Russell	2767
" Stars, Magnitudes of, and Errors in Parallaxes. W. J. Luyten	800
Gravitation, Influence of, on Light Rays, see also section Gravity.	
Henry Draper Catalogue, 21 <i>h</i> , 22 <i>h</i> , and 23 <i>h</i> . A. J. Cannon and E. C. Pickering	2946
Images, Faint, Development of, in Fogging. S. R. Pike	793
Ionisation Potential of Elements. Cecilia H. Payne	2707
Ionised Gas, Opacity of. J. Q. Stewart	452
" Stream in Earth's Magnetic Field. S. Chapman	1101
Jupiter's 8th Satellite and Delaunay's Lunar Theory. J. Trouset	1738
" Satellites, Elliptical Disks of. W. H. Pickering	2705
Kepler Ellipse, Adiabatic Transformation of, into the Harmonic Ellipse. H. Geppert	2429
Length of Day, Length of Year, Density and Mean Orbital Radius of Objects in the Solar System, Two Relations between. C. della Salda	1106
R Leonis, RX Virginis and R Virginis, Photometric Variations of. S. Aurino	1751
" " T Cephei, R Serpentis and Mira Ceti, Spectrographic Observations of. E. B. Frost and (Miss) F. Lowater	1749
Light Absorption in Space. A. Kopff	53

For the Explanation of this Index see p. 1154.

Astronomy, continued.	
Light, Velocity of: Is it to be compounded with that of its Source? M. la Rosa	54
Luminosity and Density Functions. F. H. Seares	1734
Function, Form of. F. H. Seares	2702
Lunar Eclipses, Brightness of. W. J. Fisher	1724
Magnitude, Mean Absolute, of a Group of Stars. G. Prasad	2461
Magnitudes, Absolute, and Parallaxes of 1080 Stars. R. K. Young and W. E. Harper	1116
Photo-visual, of One Hundred Stars. E. S. King	792
Meteors, see Meteorology.	
Mira Ceti Variables, Constitution of. la Rosa	1750
1924. W. J. S. Lockyer	2466
R. Leonis, T Cephei, and R Serpentis, Spectrographic Observations of. E. B. Frost and (Miss) F. Lowater	1749
Moon, Mars and Mercury, Polarisation of Light from. B. Lyot	2220
Temperature of Surface of. R. Dietzius	2221
Moving Light-Source, Effect of, see section Rays and Radiation.	
Nebulae. J. H. Jeans	1102
Planetary, Mechanism and Structure of. J. H. Jeans	796
Spiral, Internal Motions of. J. H. Jeans	804
Motions of. W. M. Smart	1732
362, Distribution of Poles of. C. C. L. Gregory	2233
Night Sky, Light of. (Lord) Rayleigh	2947
Nova Aquilae, Colour Index and Light Curve of. H. Shapley	232
Observatories, Proceedings of	1099
Observatory Work, 1922, Status of	785
Orrery in the Deutsches Museum, Munich. W. Bauersfeld	2458
O-Type Stars, H and K Lines of Calcium in. J. S. Plaskett	813
Parallax and Orbital Motion of ξ Ursae Majoris. C. L. Stearns	2234
Stellar, Atmospheric Dispersion and Determinations of. F. Slocum	1735
Parallaxes and Absolute Magnitudes of 1080 Stars. R. K. Young and W. E. Harper	1116
Errors in, and Magnitudes of Giant Stars. W. J. Luyten	800
Hypothetical, and Spectral Classes. W. J. Luyten	1737
Precise Astronomical Measurements. E. B. Wilson and W. J. Luyten	1716
Spectroscopic, of A-Type Stars. B. Lindblad	2232
of 100 B-Type Stars. D. L. Edwards	1736
Perseus, Double Cluster in. C. Parvulesco	1747
Perturbations, Extrapolation of. B. V. Noumerov	2690
Photographic Measures, Comparison of, by Different Observers. E. S. King	796
Proper Motions, Influence of Comparison Stars on. J. Jackson	2224
Photometric Observations of Some Variable Stars. S. Aurino	1742
Variation of X and T Cancri. S. Aurino	1748
Variations of R Leonis, RX Virginis and R Virginis. S. Aurino	1751
Photospheric Layers, Radiation and Temperature of. R. Lundblad	448
Physics, Modern, applied to Astronomy. H. N. Russell	2697
Planetary and Stellar Systems, Formation of. A. Veronnet	801
Surfaces, Study of, by Polarisation. B. Lyot	794
Temperature and Water-Cell Transmissions. D. H. Menzel	449
Planets, Minor, Photographic Observations of, in 1922 obtained with the Franklin-Adams Star Camera	795
Momentum of. C. Bellia	1108
Revised Magnitudes and Colour Indices of. E. S. King	809
Propagation of Light and Several New Investigations of Rudolph Tomaschek, Ballistic Principle in. M. la Rosa	2903
Proper Motions of Stars in Zone, $-9^{\circ}50'$ to $-14^{\circ}10'$. W. J. Luyten	806
Radial Velocities of Globular Clusters and de Sitter's Cosmology. L. Silberstein	1112
of Long-Period Variable Stars. P. W. Merrill	802
Radiation Equilibrium. R. Emden	2219
Inside a Star, Absorption of. A. S. Eddington	1109
Pressure, see also section Rays	
Real and Apparent Velocities. A. V. Douglas	2459
Refraction, Cosmical. H. Kienle	1107, 2457
Courvoisier and Einstein Effects. A. Kopff	1400

For the Explanation of this Index see p. 1154.

Astronomy, continued.

Rotation Period of the Sun as derived from Magnetic Storms. E. W.	2454
Maunder and A. S. D. Maunder	1534
Solar Activity and Atmospheric Electricity. L. A. Bauer	1722
Atmosphere, Variable Absorption in. A. Amerio	2223
Constant. F. Linke	1719
and Sunspot Activity. A. Amerio	790
see also section Meteorology.	787
Disc, Distribution of Energy on. A. Amerio	1721
Facula in Latitude, Distribution of	788
Protuberances, Cause of Great Velocities of. W. Anderson	44
Radiation and Sun's Visible Features. C. G. Abbot	45
Corrections. R. E. Watson	1104
Ultra-Violet Intensity of. G. M. B. Dobson	1102
Variability of. R. Lundblad	2698
System, Origin of. J. H. Jeans	2229
South Declinations, 15°, 30°, and from 45° to 90°. Durchmusterung of Selected Areas for. H. Shapley	2467
Spectra and Temperatures of β -Stars. Cecilia H. Payne	2227
Celestial, Absorption Bands in. F. E. Baxandall	812
Stellar, Distribution of Energy in. J. Baillaud	814
Spectral Class and Absolute Magnitude of Double Stars. K. Lundmark and W. J. Luyten	810
Class, Apparent Magnitude and Galactic Positions of Stars of. Henry Draper Catalogue. H. Shapley	811
Classes and Visual Star Colours. W. S. Franks	1743
Type and Absolute Magnitude. B. Lindblad	1749
Types and Colour Indices of the Components of Double Stars. G. Abetti	2468
Spectrographic Observations of Mira Ceti. R. Leonis, T. Cephei, and R. Serpentis. E. B. Frost and (Miss) F. Lowater	1114
Spectrum of γ Cassiopeiae, H β to B	2230
Star Clusters, Constitution of. C. Parvulesco	1111
Vestiges of Spiral Structure in. P. Bruggencate	799
Gaseous, Adiabatic Equilibrium of. A. Veronnet	2469
Interior of, and Transfer of Radiation. E. A. Milne	2225
Stars of Spectral Class R, Radial Velocities of. R. F. Sanford	2231
Bright Hydrogen Line. W. J. S. Lockyer	2228
Distribution of. H. Shapley	2464
Faint, Spectral Classification of. C. R. Davidson and E. Martin	1110
Jean's Theory of Origin of. H. Shapley	1730
Near-by, Study of. W. J. Luyten	1729
Relation between Masses and Luminosities of. A. S. Eddington	2463
Stellar Atmospheres, Absorbing Power of. Salet	2501
Cumulative Ionisation in. M. C. Johnson	1728
Ionisation in. Cecilia H. Payne	2944
Distribution, Summary of. H. Shapley and Annie J. Cannon	2709
Energy Spectra, Radiometer Measurements of. C. G. Abbot	1727
Mass through Radiation, Shrinkage of. H. Vogt	2706
Physics, Recent Work in. E. A. Milne	2708
Reversing Layer, Pressure in, and Origin of Solar Continuous Radiation. M. N. Saha	1725
Spectra, Breadth of the Hydrogen Lines in. E. O. Hulbert	2700
Maxima of Absorption Lines in. R. H. Fowler and E. A. Milne	2704
Statistics. V. Michkovitch	1113
System, Absorption of Light and Limits of. H. Kienle	1809
Temperatures and the Absorption Lines of Silicon. C. H. Payne	2701
Velocity, Distribution Function for. F. H. Seares	2706
Stockholm Catalogue of 1210 Stars	791
Sun and the Nova Stage. E. Belot	2456
Diameter of. G. Armellini	2222
Rotation Period of	2940
Sun's Atmosphere, Pressure and Circulation in Reversing Layer of. C. E. St. John and H. D. Babcock	230
Disc and Temperature Gradient in Sun's Atmosphere, Distribution of Brightness on. R. Dietzius	

For the Explanation of this Index see p. 1154.

Astronomy, continued.

Sun's Motion and the Mean Parallaxes of Stars of Different Apparent Magnitudes. F. H. Seares	2941
Photosphere, Dielectric Constant of. W. Anderson	789
Reversing Layer, Meridional Component of General Current in. R. Sekiguchi	1723
Sunspot Activity and the Solar Constant. A. Amerio	1719
Epochs, Fitting Straight Lines to Data. C. F. Marvin	1717
Polarity, Law of. G. E. Hale	1720
Sunspots as Magnets and Periodic Reversal. G. E. Hale	1105
Cosmical Physics. J. Levine	1718
Sun's Surface, Pressures at. H. N. Russell and J. Q. Stewart	2226
Telescope, New 60-in., for Perkins Observatory	1100
Time, Determination of. G. Bigourdan	2216
δ Trianguli, Spectroscopic Binary, Orbit of. J. A. Pearce	1746
Variable Star SX Herculis, Study of. W. J. Luyten	1744
Stars and Velocity of Light. M. la Rosa	807
for 1923, Maxima and Minima of. L. Campbell	2703
Long-Period. W. M. Smart	2945
Magnitudes of. P. W. Merrill and G. Strömberg	1740
Radial Velocities of. P. W. Merrill	802
Photometric Observations of Some. S. Aurino	1742
Space-Velocities of. G. Strömberg and P. W. Merrill	1741
Variables T and R Coronæ Borealis, Light Curves of. L. Campbell and H. Shapley	808
Long-Period, and other Stars of Late Spectral Types, Motions, Parallaxes, and Luminosities of. R. E. Wilson	805
RX Virginis, R Virginis and R Leonis, Photometric Variations of. S. Aurino	1751

Batteries, Primary.

Ammonium Chloride, Action of, on Zinc. C. Drucker	684
Antimony-Lead Alloys, Electric Potential of. S. D. Muzaffar	361
Atmospheric Oxygen as Depolariser. A. Nasarischwily	167
Carbon Cells at High Temperatures. L. v. Rohrer	693
Concentration Cells in Methyl Alcohol. J. Grant and J. R. Partington	1326
Contact Electricity. A. Coehn and E. Duhme	2820
Potentials, Metal, and Peltier Effect, Relation between. J. A. V. Butler	3053
Cuprous-Oxide Photo-Voltaic Cells. A. D. Garrison	1325
Electrode-Potential, Significance of. J. A. V. Butler	1035
E.M.F. of Cells, Chemical Affinity, and Molecular Attraction. N. V. Karpén	360
of Hydrogen Calomel Cell, Effect of Hydrogen Pressure on. W. R. Hainsworth, H. J. Rowley and D. A. McInnes	2372
Hydrogen Electrode in Alkaline Solutions. A. H. W. Aten	1324
Water-Jacketed. H. S. Simms	692
Iodide in Aqueous Solution, Free Energy of Dilution and Activity of Ions of. J. N. Pearce and A. R. Fortsch	1323
Lead Monoxide, Free Energy and Heat of Formation of. D. F. Smith and H. K. Woods	691
Light on Metals in Solutions of their Salts, Electromotive Force produced by. G. Athanasu	1321
Action of, on Metal Electrodes. R. Audubert	690
Magnesium, Electromotive Behaviour of. A. Smits	696
Metal Plate and a Solution on being suddenly Brought into Contact, Change in E.M.F. between. R. D. Kleeman and R. H. Bennett	1622
Oxidation Potentials at Mercury Electrodes (Titanium). G. S. Forbes and L. P. Hall	1319
Photoelectric and Calorific Action of Radiation on Metals Plunged into Solutions of their Salts. G. Athanasu	1317
Photoelectric-Cells, see section Photoelectricity.	
Poisoned H-O Electrodes, Potentials of. N. Igarischew and E. Koldaewa	1623
Polarisation, see also section Polarisation (Electrolytic).	
Potential of Alkali Metals, Determination of. G. Trümpler	1619
of Hydrogen Occluded in Iron, Effect of Magnetic Field on. T. W. Richards and W. T. Richards	1320
Quinhydrone Electrode as Comparison Electrode. S. Veibel	363

For the Explanation of this Index see p. 1154.

Batteries, Primary; continued.	
Quinhydrone Electrode, Use of, for Estimation of Amino-Acids, and of Acids and Bases. L. J. Harris	1036
Selenium Cells, Sensitiveness of, to X-rays of Different Wave-lengths. H. Küstner	3094
Sign of Electric Charge of a Metal in a Liquid. R. D. Kleeman and W. Fredrickson	695
of Electric Potential, Standardisation of. A. W. Porter	2369
Superficial Tension and Voltaic Properties of Mercury. E. Perucca	166
Volta Effect. E. Perucca	962
Weston Standard Cells, Effect of Mercurous Sulphate on Electromotive Force and Hysteresis of. W. C. Vosburgh and M. Eppley	1582
Batteries, Secondary.	
Accumulators, Industrial Electrical, see section B.	
Lead Storage Battery, Reactions of. M. Knobel	1965
Capacity (Electrostatic).	
Air Condensers, Small, Capacities of. L. Hartshorn	3024
Capacities, Small, Method of Measuring. L. Hartshorn	3025
Capacity, Measurement of Very Small Changes of. R. Gunn	2594
Condenser Apparatus for Röntgen Requirements, Theory of. M. Jona	3023
Contact Electricity. A. Coehn and E. Duhme	2820
Electrical Charges of Sub-Microscopic Particles, Problem of. T. Sexl	2819
Electromotive Force of Filtration. L. Riéty	2822
Measurements, see separate section.	
Pt-Rhodamine B-Pt Cell. K. F. Sun	2147
Specific Inductive Capacity in Solids. J. Errera	2818
Stream Lines in the Two-Dimensional Motion of a Perfect Fluid, Electrical Method for Tracing. E. F. Relf	2823
Chemical Equilibrium and Reactions.	
Atomic Dimensions and Chemical Reactivity. H. L. Riley	2861
Cæsium Vapour, Ionisation of, and Mobility of Electrons in the Bunsen Flame. B. T. Barnes	2570
Carbon Bisulphide by Ultra-Violet Rays, Destruction of. G. Bruhat and Pauthenier	2352
Catalytic and Induced Oxidation. A. K. Goard and E. K. Rideal	1615, 1616
Chemical Change with Variable Concentration, Calculation of Work of. C. Frenzel	2866
Combustion of Fuels, Temperatures Attainable in. G. A. Goodenough and G. T. Felbeck	1960
of Hydrogen-Air Mixtures and Pressure and Temperature, Rate of. H. Mache, A. Nâgel	1613
Dissociation Equilibria, Theory of. C. G. Darwin and R. H. Fowler	1033
Double Salts, Solubility Curves for the Decomposition of. S. M. Levi	1950
Entropy, Absolute, and Chemical Constants of Polyatomic Gases. J. K. Syrkin	2554
Equilibrium, Partial. E. Baur	3087
Glow Discharge, Chemical Reaction in. A. Günther-Schulze	2864
Heats of Formation. C. Henry	2611
Heterogeneous Equilibria, Studies in. J. A. V. Butler	2857
Hydrogen Iodide, Decomposition of. H. A. Taylor	3088
Chemical Constant of. W. H. van de S. Bakhuyzen	2549
Hydroquinone, Hydrogen Ion Concentration and Oxidation of. V. K. la Mer and E. K. Rideal	1316
Landolt Reaction by Bromides and Chlorides, Acceleration of. A. Skrabal	1612
Molecular Attraction and Combination. O. Maass	2858
Monomolecular Reactions. J. J. Thomson	1312
Phase Boundary Potentials. L. Michaelis and A. Fujita	2629
Thermo-dynamic, Theory of. E. Abel	2630
Photolysis, Uranylloxalate, Quantum Sensibility of. P. F. Büchi	2862
Thermodynamics, Application of, to Chemical Changes. S. Sano	157
Conductivity (Electric) and Resistivity.	
Aggregates, Electrical Resistance of. K. Lichteneker	2333
Alkali Metals, Electrical Resistance and Thermoelectric Power of. C. C. Bidwell	1909

For the Explanation of this Index see p. 1154.

	Abstract Nos.
Conductivity (Electric) and Resistivity, continued.	
Alloys at High Temperatures, Electrical Properties of. M. A. Hunter and A. Jones	1028
Aluminium, Commercial, Electrical Resistance of. L. Guillet	630, 967
Aluminium, Laboratoire Central d'Electricité on Properties of. Jouaust	1559
" Resistivity of, at Different Temperatures. G. Grassi	629
Binary Metallic Alloys, Electric Conductivity in. M. Pirani and J. Runge	2331
Calculation of Conductivity. C. F. Weiland	1290
Carbons, Granular Resistor, Resistivities of. C. E. Williams and G. R. Shack	1561
Caustic Soda, Molten, Electrical Conductivity of. K. Arndt and G. Floetz	2586
Coils, Single-Layer, Alternating-Current Resistance and Inductance of. C. N. Hickman	984
Conductance of Solid Salts at Elevated Temperatures. P. Vaillant	3051
Conductivities, Electrical, of Mixtures of Aniline, Acetic Acid and Water. J. R. Pound	3052
Conductivity of Atmosphere, <i>see also</i> section Static Electricity.	
" of Gases, <i>see</i> section Discharge in Gases.	
" of Metals, Effect of Torsion on. J. E. Calthrop	2143
" of Solid Salts, Effect of Additions on. C. Tubandt and H. Reinhold	170
" Atomic, of Metals. F. Simon	2144
" Induction Coil for Determination of. F. Scheminzy	2145
Connections, Resistance of. G. E. Luke	791n
Contacts, Loose, Passage of Currents through. Angelika Székely	1565
Copper and Iron Fused with Mica, Temperature Variation of Electrical Resistance of. K. R. Ramanathan	972
" Commercially Pure, Relation between Tensile Strength and Electrical Resistivity of. W. E. Alkins	3047
Cryolite-Alumina Mixtures, Conductivity of. K. Arndt and W. Kalass	1563
Crystals, Conduction of Electricity through. F. v. Rautenfeld	966
" Passage of Electricity through. A. Joffé	323
Electrical Conductivity and the Bohr Atomic Theory. O. Feussner	2582
" of Metals. A. Schulze	623
" Resistivity and Thermal Emissive Power of Metal. C. Davisson and J. R. Weeks, Jr.	2295
Electrolytes under High Frequencies, Conductivity of. J. Granier	2334
Electronic Conduction in Metals. A. Bramley	1247
Equilibrium Theory of Electrical Conduction. A. T. Waterman	622
von Ettingshausen Effect. E. Persico	1296
Flames containing Alkaline Salts, Electric Conductivity of. A. Pontremoli	2330
" Metallic Vapours, Electrical Conductivity of. E. Zachmann	2836
Glasses, Electrical Conductivities and Transition Points of. H. Schoenborn	1908
Gold Films, Resistance of. S. S. Mackeown	1564
Graphite, Electrical Conductivity of. E. Ryschkewitch	969
Hall Effect and Specific Resistance of Kathodically Deposited Films of Gold. S. S. Mackeown	1564
" Effect and Thermoelectric Power. P. Raethjen	1566
High-frequency Resistances of Wires. G. Wuckel	1285
Hydrogen Chloride, Conductance of Dilute Solutions of. H. C. Parker	173
Indium, Electric Resistance of, in the Temperature of Liquid Helium. W. Tuyn and H. K. Onnes	625
Iodine, Electrical and Thermal Properties of. A. Pochettino and G. Fulcheris	626
Ionisation, <i>see</i> sections Dissociation and Ionisation and Discharge, Electric.	
Iron Wire, Resistivity and Temperature Coefficient of. S. Kimura and N. Namikawa	1907
" Influence of Combined Carbon on Specific Resistance of. F. Stäblein	970
Lead Peroxide, Reguline, Properties of. W. Palmaer	635
Magnetite, Conductivity of, and Effect of Magnetisation. E. Wilson and E. F. Herroun	1562
Measurements, <i>see</i> separate section.	
Metallic Conductivity. E. Kretschmann	2332
" Products, Electrical Resistivity of. L. Guillet	1560
Metals and Alloys on Bohr's Theory, Electrical Conductivity of. K. Højendahl	2835
" Effect of Tension on Conductivity of. P. W. Bridgman	632
" Electric Conductivity of. F. Simon	2834
Molybdenite, Electrical Conductivity of. J. Okubo	2588

For the Explanation of this Index *see* p. 1164.

- Conductivity (Electric) and Resistivity, continued.**
- Ohm's Law, Validity of, for an Electrolyte with High Potential Gradients. M. Wien 1280
- Phosphores, Conductivity Changes of, by Kathode Rays. E. Ruppi 968
- Electrical Conductivity of, and their Light Emission. B. Gudden and R. Pohl 1285
- Platinum, Influence of Hydrogen on Resistance of. R. Suhrmann 634
- Pure, Temperature Resistance Coefficient of, under Mechanical Stress. O. Feussner 1281
- Potassium Chloride Solutions, Conductance of. Electrolytic Conductance Measurements. H. C. Parker and Elizabeth W. Parker 1581
- in Liquid Ammonia, Resistance of Solutions of. C. A. Kraus and W. W. Lucasse 628
- Pt-Rhodamine B-Pt Cell. K. F. Sun 2147
- Resistance of a Conductor for Alternating Currents, Increase of. L. Lehrs 1270
- of Carbon and Graphite with Temperature, Variation in. B. Noyes, Jr. 3049
- Rhodium and Iridium, Compressibility and Pressure Coefficient of Resistance of. P. W. Bridgman 624
- Salt Vapours, Electric Conductivity of. G. C. Schmidt and R. Walter 627
- Selenium and Cuprous Oxide, Light Sensitivity of. V. E. Barton 1913
- Single-Layer Coils, Alternating-Current Resistance of. S. Butterworth 2342
- Skin Effect in Tubes. K. Försterling 1927
- M. Wien 1928
- Sodium-Potassium Alloys, Free Electron Characteristics of. C. V. Kent 477
- Solid Salts, Effect of Temperature and Moisture on Conductivity of. P. Vaillant 1631
- Salts, Electrical Conductivity of. P. Vaillant 2581
- Steel, Sheet, Influence of Cold Rolling on Electrical Properties of 320
- Super-Conduction, Effect of Magnetic Field in. G. Breit 971
- Conductivity, Theory of. E. Kretschmann 2583
- Tension, Effect of, on Change of Resistance and Thermoelectromotive Force by Transverse Magnetisation. A. W. Smith 321
- Thermodynamics of Electron Emission. O. W. Richardson 1644
- Torsion, Effect of, on Thermal and Electrical Conductivities of Metals. C. H. Lees and J. E. Calthrop 322
- Wiedemann Franz Law. A. Eucken and O. Neumann 2901
- Conductivity (Thermal).**
- Alloys, Thermal Conductivity of. H. M. Williams and V. W. Bihlman 2535
- Bar Method for Measurement of Thermal Conductivity. M. D. O'Day 1837
- Bismuth Crystals, Thermal Conductivities of. G. W. C. Kaye and J. K. Roberts 113
- Diatomic Gases at Low Temperatures, Thermal Molecular Conductivity and Molecular Heat of. E. Schreiner 2992
- Dielectric and Conductive Anisotropism of Fluid Crystals. W. Kast 965
- Diffusivity, Thermal, and Conductivity of some Soil Materials. L. R. Ingersoll and O. A. Koepf 2289
- Equation of Heat Conduction, Integration of. I. Runge 573
- Fused Electrolytes, Conductivity of. W. Biltz and W. Klemm 2645
- Heat Transfer in Small Pipes. F. C. Blake and W. A. Peters 3000
- Transference and Fluid Friction. T. B. Morley 2294
- Iodine, Electrical and Thermal Properties of. A. Pochettino and G. Fulcheris 626
- Kinetic Theory of Viscosity, Conduction and Diffusion. S. Chapman and W. Hainsworth 2810
- Liquids, Thermal Conductivity of, under Pressure. P. W. Bridgman 1216
- Measurements, see separate section.
- Metals, Effect of Tension on Conductivity of. P. W. Bridgman 632
- Refractories, Thermal Conductivity of. M. D. Hersey and E. W. Butzler 2536
- Rocks, Thermal Conductivity and Compressibility of. P. W. Bridgman 1063
- Technical Materials, Conductivity for Heat of. O. Tesche 2286
- Thermal Conductivities. W. B. Brown 566
- Conductivity Data. A. H. Davis 2127
- Torsion, Effect of, on Conductivity of Metals. J. E. Calthrop 2143
- on Thermal and Electrical Conductivities of Metals. C. H. Lees and J. E. Calthrop 322
- Wall Insulation. E. Griffiths 1217
- Wiedemann-Franz Law. A. Eucken and O. Neumann 2901

For the Explanation of this Index see p. 1154.

Critical Points and Constants.	
Corresponding States, Berthelot on van der Waal's Law of	Bochet..... 1518
Critical State of Miscibility on Volumes, Influence of Neighbourhood of	N. Perrakis..... 1516
Cryoscopic Measurements, <i>see</i> section Freezing-, Melting-, and Boiling-Points.	
Fluids in Saturated State near the Critical Point.	J. E. Verschaffelt..... 119
Four-Volumes Rule.	C. Porlezza..... 897
Gases, Various, Critical Constants of.	F. S. Pickering..... 1515
Iron, Steel and other Metals, Critical Point of, <i>see</i> section Metallography.	
Measurements, <i>see</i> separate section.	
Miscibility of Substances above the Critical Temperature.	T. des Coudres.... 1218
Critical State of.	N. Perrakis..... 1956
Molecular Association of Liquids and Gases.	E. E. Walker..... 1237
Paraffin Hydrocarbons, Properties of.	R. E. Wilson and W. H. Bahlke..... 1508
Three Temperatures Rule.	C. Porlezza..... 896
Crystals and Crystal Structure.	
Acetaldehyde Molecules in the Space Lattices of Acetaldehyde Ammonia and	
Metacetaldehyde, Relation between.	O. Hassel and H. Mark..... 2916
Alloys, Certain, Lattice Structure of.	S. Holgersson and E. Sedström..... 2905
Aluminium Nitride (AlN), Lattice of.	H. Ott..... 1393
Analysis, Crystal Powder, by X-rays.	J. Brentano..... 546
Aragonite, Structure of.	W. L. Bragg..... 1068
Argon, Crystal Structure of.	F. Simon and C. v. Simson..... 2442
Arsenic, Metallic, Crystal Structure of.	A. J. Bradley..... 1686
Atomic Structure of Two Intermetallic Compounds.	E. A. Owen and G. D. Preston..... 2910
Atomistic Structure of Deformed Crystals.	R. Gross..... 1662
Atoms in Mixed Crystals, Distribution of.	G. Tammann..... 2914
Basic Beryllium Acetate and Propionate, Crystal Structure, and Chemical	
Constitution of.	W. Bragg and G. T. Morgan..... 212
Bismuth, Structure of.	O. Hassel and H. Mark..... 1682
Calcium, Structure of.	H. Collins..... 2911
Carbon Compounds, Crystal Structure and Constitution of.	I. E. Knaggs..... 2440
Cellulose, X-ray Spectrographic Observations with.	H. W. Gonell..... 2788
Cobalt, Structure of.	H. Collins..... 2912
Copper, Structure of.	H. Collins..... 2913
Crystal Analysis by Diffraction of X-rays.	R. A. Patterson..... 2527
-Axes, X-ray Determination of.	A. Möller..... 2006
Forms and Lattices.	M. Yamada..... 2443
Growth in Tubular Spaces.	R. Gross and H. Möller..... 1314
Lattice, Röntgen Light and its Application to Determination of.	R. Schachenmeier..... 414
Sections by Conoscopic Methods, Examination of.	C. W. Hawksley..... 2058
-Structure Analysis of Characteristic Secondary X-rays, Excitation,	
Reflection and Utilisation in.	G. L. Clark..... 1183
Structure by X-rays, Analysis of.	W. H. Bragg..... 2907
of Oxalic Acid.	H. Hoffmann and H. Mark..... 2915
Results of X-ray Examination of.	R. Gross..... 1394
Symmetry and Residual Radiation.	C. J. Brester..... 2435
and X-rays.	T. V. Barker..... 411
Types of.	W. Barlow..... 13
Crystalline Liquids.	C. W. Osceen..... 1675
Structure of Metals, Mixed Crystals, etc.	K. Becker..... 752
Crystals, Elastic Limit and Strength of.	A. F. Joffé, M. V. Kirpicheva and M. Levitzky..... 1994
" Liquid," Formation of, in Mixtures of Cholesterol and Cetyl Alcohol.	A. Młodziejowski..... 687
Mixed, Thermodynamics of.	H. G. Grimm and K. F. Herzfeld..... 686
Diffraction and Quantum Integral, by a Crystal.	A. H. Compton..... 415
Elastic Stress in an Isotropic Body.	R. F. Gwyther..... 2419
Energy of the Crystal.	J. C. Slater..... 1669
Esters and Long-Chain Compounds, X-ray Investigation of.	G. Shearer..... 755
Fatty Acids, X-ray Investigation of.	A. Möller..... 14
Fluid Crystals, Theory of.	L. S. Ornstein..... 2388
Graphite, Crystalline Structure of.	O. Hassel and H. Mark..... 2441

For the Explanation of this Index *see* p. 1154.

	Abstract Nos.
Crystals and Crystal Structure, continued.	
Gravitational Anisotropy in Crystals. P. R. Heyl	2878
Halogen Hydrides, Vapour Pressures and Crystal Structure of. F. A. Henglein	291
Hydrogen Chloride, Crystalline Structure of. F. Simon and Clara v. Simson	1064
Isomorphous Compounds $(\text{NH}_4)_2\text{ZrF}_6$ and $(\text{NH}_4)_2\text{HfF}_6$, Structure of. O. Hassel and H. Mark	2917
Kinetics of Macrocystal Formation in Tungsten. H. Alterthum	2620
Lattice Determinations by Means of Layer Lines. H. Mark, K. Weissenberg and H. W. Gonell	211
Theory and Elastic Constants. G. Heckmann	1681
Liquid Crystals, Soap Solutions and X-rays. J. W. McBain	2782
Lithium Iodide and Rubidium Fluoride, Structures of. R. W. G. Wyckoff and E. W. Posnjak	753
Long-Chain Compounds, X-ray Measurements of. A. Müller and G. Shearer	756
Magnesium Stannide, Structure of. L. Pauling	1067
Magnetite Crystal, Magnetostriction of. C. W. Heaps	2347
Metal Crystals. E. Grüneisen and E. Goens	2659
Single, Production of. I. Obreimow and L. Schubnikow	2619
Foil, Rolled, Structure of. H. Mark and K. Weissenberg	18
Metallic Crystals, Single, Production and Properties of. H. C. H. Carpenter	355
Metals, Treated, Crystal Structure of. L. Thomassen	751
Organic Substances, Crystalline Structure of. W. H. Bragg	1066
Piezoelectricity and Molecular Asymmetry. R. Lucas	2328
Plastic Deformation of Crystals. E. Schmid	1611
Potassium Hydrogen Fluoride, Crystal Structure of. R. M. Bozorth	16
Racemic Acid, Anhydrous, Crystalline Structure of. W. T. Astbury	15
Reflection, Selective, of X-rays by Crystals. W. Kossel	2096
Rubidium Fluoride and Lithium Iodide, Structures of. R. W. G. Wyckoff and E. W. Posnjak	753
Selenium and Tellurium Rhombohedral Forms, Crystal Structures of. A. J. Bradley	2904
Shapes of Crystals after Etching. R. Gross, F. Koref and K. Moers	1601
Silver Iodide, Crystalline Structure of. R. B. Wilsey	17
Solid Solutions, X-ray Analysis of. E. A. Owen and G. D. Preston	1031
Solids, Constitution of. C. E. Mendenhall	1375
Space-Filling in Crystals. F. A. Henglein	1603
Lattice of Triphenylmethane. K. Becker. Note by H. Mark and K. Weissenberg	2007
Steel, Sheet, X-ray Investigation of Effect of Cold Rolling on. Y. Niwa and J. Matūra	162
Structure of Crystals of NaBrO_3 and NaClO_3 . L. Vegard	413
Determination of, by Means of X-rays. M. Polányi	412
Succinic Acid, Succinic Anhydride and Succinimide, Crystalline Structure of. Kathleen Yardley	1685
Sulphur, Rhombic, Lattice Structure of. H. Mark and E. Wigner	2906
Surface Energy of Crystals and their Forms. M. Yamada	1600
Tin, Lattice Structure and Sliding Planes of. H. Mark and M. Polányi	356
White, Lattice Structure of. H. Mark and M. Polányi	1392
Tungsten Single Crystals, Strength of. Research Staff of General Electric Co., London	2414
Zinc-Copper Alloys, X-ray Analysis of. E. A. Owen and G. D. Preston	1032
Crystals, Changes by the Extension of. E. N. da C. Andrade	1958
Density.	
Acetone, Density and Viscosity of, at Low Temperatures. E. H. Archibald and W. Ure	1648
Apparatus, see separate section.	
Charcoal, Density of, by Displacement of Liquids. J. B. Firth	371
Density of Liquids for Buoyancy of Air, Correction of. G. Barr	1977
Ethyl Alcohol at 20°, Absolute, Specific Gravity of. C. N. Riiber	370
Gases Measured by Interferometry, Density and Diffusion of. C. Barus	1650
Measurement of Specific Gravity of. A. Blackie	369
Graphical Vapour Pressure and Specific Gravity Tables. H. G. Deming	2398
Graphite, Density of. E. Ryschkewitsch and E. Köstermann	1335
Helium Model, Ortho, Adiabatic Hypothesis to. O. Halpern	422
Iron and other Refractory Metals in the Liquid State, Density of. C. Benedicks	2878

For the Explanation of this Index see p. 1154.

	Abstract Nos.
Density, continued.	
Iron, Change of Density of, due to Overstrain. J. W. Landon	348
Lead Peroxide, Reguline, Properties of. W. Palmaer	635
Liquids and Temperature, Density of. J. J. Saslawsky	2384
Magnesium from 20° C. to 700° C., Density of. J. D. Edwards and C. S. Taylor	2880
Metals and Alloys, Rate of Cooling, Density and Composition of. R. C. Reader	1610
Paraffin Hydrocarbons, Properties of. R. E. Wilson and W. H. Bahlke	1508
Powder, Compressed, Distribution of Densities in Columns of. E. E. Walker	194
Sodium Chloride Solutions, Densities and Specific Volumes of. R. E. Hall	1649
..... Vapour Pressure and Density of. W. R. Bousfield	572
..... and C. Elspeth Bousfield	178
Solutions, Aqueous, Temperature of Maximum Density of. A. Tafel	780
Specific Gravity of the Surface Water in the Indian Ocean, Influence of	219
..... Barometric Pressure on. R. B. S. Sewell	320
Statistical Theory of Spontaneous Fluctuations in Energy, Pressure and	190
..... Density. K. C. Kar	
Steel, Sheet, Influence of Cold Rolling on Electrical Properties of	
Surface Tension and Density, Relation between. D. B. Macleod	
Dielectrics, see also section Capacity.	
Air between Plate Electrodes, Electric Strength of. W. O. Schumann	1551
..... Electrical Strength of. H. Zipp	129, 1550
Breakdown Field Intensity with Spherical Electrodes. W. O. Schumann	1553
..... Voltages for Air. F. Dessauer	5048
Condensers with Liquid Dielectrics, Power Loss in. L. S. McDowell	1570
Dielectric and Conductive Anisotropism of Fluid Crystals. W. Kast	905
..... and other Properties of Non-Metallic Elements, Connections between	
G. L. Addenbrooke	1979
..... Constant. R. Fürth	1571
..... of Steel. H. F. Richards	589
..... with Frequency and Energy Loss, Variation of. J. Mould	144
..... Constants. P. Walden and O. Werner	3050
..... and Chemical Constitution with Organic Liquids. E. H.	
L. Meyer	2327
..... Constants and Pressure. F. Waibel	142
..... of Liquid Crystals in a Magnetic Field. Jerevski	2156
..... of Organic Liquids. F. V. Grimm and W. A. Patrick	1283
..... in the Light of the New Theory of the Atom. G. Jacoby	2920
..... Losses at Radio Frequencies in Liquid Dielectrics. A. B. Bryan	652
..... Properties of Water for Continuous Waves. G. C. Southworth	2141
Dielectrics and Condensers. J. Lahousse	9478
Discharge Voltage and Breakdown Field of Spherical Electrodes. A. Klemm	1552
Electrolytes, Dielectric Constants of Solutions of. O. Blüh	2587
Electrolytic Solutions, Dielectric Constants of. P. Walden and H. Ulich	2584
Hydrogen, Oxygen, Nitrogen, Air and CO ₂ , Dielectric Constants of, by a	
..... High-frequency Method. E. C. Fritts	1914
India-rubber as a Dielectric, Behaviour of. J. Villey, P. Vernotte and H.	
..... Lacaze	2329
Internal Electrical Charge of the Electret, Nature of. M. Eguchi	1912
Maxwellian Radiation, Dielectric Properties required for. A. Press	3016
Measurements, see separate section.	
Piezoelectric Effects with Dielectrics. K. R. Brain	1572
Polarisation, Electric, of Dielectrics. G. Jacoby	143, 1282
Properties of Dielectrics. G. L. Addenbrooke	2342, 1569
Quantum Theory and Dielectric Constant. J. H. Jones	2588
Quartz; Thermic Variation of Dielectric Constants of. S. Gagnebin	2589
Solid Dielectrics, Disruptive Strength of. A. A. Ahmed	2140
Surface Resistance of Insulating Sheets, Measurements of. R. Dieterle	1284
Diffusion.	
Coefficients of Diffusion of Liquids. F. Hoeltzenbein	2166
Diffusion in Liquids, Optical Study of. B. W. Clack	2381
..... Rate of Metals in Mercury, Influence of Pressure on. E. Cohen	
..... and H. R. Bruins	2183
..... Rate of Metals in Mercury, Potentiometric Determination of. E.	
Cohen and H. R. Bruins	2182

For the Explanation of this Index see p. 1164.

Di fusion, continued.	
Diffusivity, Thermal, and Conductivity of Some Soil Materials. L. R. Ingersoll	2289
Gases measured by Interferometry, Density and Diffusion of. C. Barus	1650
Gels, Diffusion in. C. T. Mann	1694
Hydrogen, Diffusion of, through Metals. H. G. Deming and B. C. Hendricks	1306
Kinetic Theory of Viscosity, Conduction and Diffusion. S. Chapman and W. Hainsworth	2810
Dilatation.	
Ceramic Materials, Thermal Dilatation of, by the Interferometer. G. E. Merritt	2537
Coefficients of Expansion of Metals and Alloys. J. N. Friend and R. H. Vallance	2534
Expansion of Glass, Recording Apparatus for. A. Arnulf	2798
Temperature on Properties of Metals, Effect of. A. Mallock	1835
Thermal Expansion, Optical Lever Method for measuring. J. Guild	2124
Stress in a Cylinder, Theory of. T. Matsumura	400
Viscosity of a Liquid and its Coefficient of Expansion. D. B. Macleod	188
Water, Dilatation of, under Constant High Pressure. L. Bochet	1212
Discharge in Gases and in Vacuo (Electric), including Discharge of	
Condensers, see also section Rays.	
Abnormal Low Voltage Arcs, Explanation of. K. T. Compton and C. H. Eckart	2828
Anode Rays, Emission of. M. Morand	2573
Arc and Spark Lines, Report on Doppler Effect in. H. Kreff	3033
Lamp, Sodium-Potassium Vapour, Potential Gradient in. F. H. Newman	1278
Light, A.C. Measurements in. A. Hagenbach and M. Wehrli	957
Demonstration of Charges of Metallic Vapours in. A. Salb	307
Relay, Electro-Optical Applications of. L. Dunoyer and P. Toulon	3055
Relays with Exterior Sheath, Electro-Mechanic Applications of. L. Dunoyer and P. Toulon	3054
Spectrum of Phosphorus. M. O. Saltmarsh	2094
of Titanium. C. C. Kiess and H. K. Kiess	2095
Electric, Counter Electromotive Force in. A. Hagenbach and M. Wehrli	308
Experiments on. M. Pierucci	616
Rotation of. H. Stolt	1896
Low Voltage Helium, Oscillations in. C. H. Eckart and K. T. Compton	1277
Mercury, Striking Potential in. M. Scott	617
Mercury, Positive Ion Currents in Positive Column of. I. Langmuir	618
Persistent, in Vacuum, Striking Potential Necessary to Produce. F. Simon	300
Arcs, Carbon, Current, Voltage and Length of. A. E. R. Westman	1894
Clapson. A. E. R. Westman and W. J.	1895
Atomic Rays, Soft. T. Volmer	2833
Breakdown Field Intensity with Spherical Electrodes. W. O. Schumann	1553
Potential and Paschen's Law. R. Rudy	950
for Air between Plate Electrodes. W. O. Schumann	951
Canal Rays. W. Wien	606
of Hydrogen, Oxygen and Nitrogen, Doppler Effect in. H. Kreff	3032
Carbon Arc, Researches on. H. Kohn and M. Guckel	3034
Condenser Oscillations. C. P. Steinmetz	2138
Corona Discharge, Surface Complications in. F. O. Anderegg	2323
Current-Voltage Relation in. C. S. Fazel and S. R. Parsons	2133
Crater, Positive. E. Podszus	619
Critical Electron Energies in Hydrogen. F. Horton and Ann C. Davies	313
Voltages, Measurement of. Lydia Inge and A. Walther	2321
Currents limited by Space Charge. I. Langmuir and Katharine B. Blodgett	614
Dark Space at the Kathode for Induced Discharges. E. Goldstein	1269
Deflection of Stream of Electrons by Electromagnetic Radiation. E. O. Halbur	309
Discharge in Rarefied Gases. A. Pontremoli	1267
Tension in Water-Vapour. I. Strohäcker	2824
Voltage and Breakdown Field of Spherical Electrodes. A. Klemm	1552

For the Explanation of this Index see p. 1154.

	Abstract Nos.
Discharge in Gases and in Vacuo (Electric), including Discharge of	
Condensers, see also section Rays, continued.	
Discharge, Electric, Photography of, with the Positive Column in Motion. G. Valle	2572
Disruptive Potential in Rarefied Gases. E. Dubois	948
Electric Discharge in Gases at Low Pressures. J. J. Thomson	3031
Electrodeless Discharge. G. Mierdel	2320
" Ring Discharge. H. Jung	3038
Electromagnetic Waves, Very Short. A. Glagolewa-Arkadiewa	2325
Electrometry, Lamps with Several Electrodes in. P. Lejay	2590
Electron Emission, Theory of. S. Dushman	2314
" Impact and Angular Momentum. P. M. S. Blackett	1881
Electrons in Gases and Negative Ions in Air, Motions of. L. B. Loeb	929
" under Crossed Electric and Magnetic Fields. R. N. Chaudhuri	133
in Gases, Mobilities of. K. T. Compton	594
" Motion of. V. A. Bailey	930
" Motions of. K. T. Compton	593
in Helium, Hydrogen and Nitrogen, Mobilities of. L. B. Loeb	1885
" Motion of. J. S. Townsend and V. A. Bailey	135
in Hydrogen, Motion of, under Crossed Electric and Magnetic Fields. R. N. Chaudhuri	314
" Motion of, in Carbon Monoxide, Nitrous Oxide, and Nitric Oxide. M. F. Skinner and J. V. White	136
" Motion of, in Nitrogen. H. B. Wahlen	1868
" Slow, Free Paths of, in Argon, etc. H. Sponer	943
" " in Mercury and Cadmium. R. Minkowski	942
Electrostatic Fields of Gauzes and Diaphragms. A. Walther and Lydia Inge	924
Excitation Tensions of Neon and Argon and their Spectra of these Gases. G. Hertz	601
Films, Electro-Sensitive. G. Piaggini	931
" Thin Opaque Metallic, Production of, and their Optical Properties. F. Rother and K. Lauch	1123
Flames containing Alkaline Salts, Electric Conductivity of. A. Pontremoli	2330
Gas in Electric Discharge, Disappearance of. Research Staff of the General Electric Co., London	1891
" Electric Discharge (V), Disappearance of. Research Staff of the General Electric Co., London	3039
" Ion Mobilities. L. B. Loeb	2832
" Disappearance of, in the Electrical Discharge Tube. F. H. Newman	1898
Gaseous Ions and Mobilities in Dry and Moist Air. J. J. Nolan	2318
Gases left after the Passage of Electrical Discharges, Absence of Helium from. S. K. Allison and W. D. Harkins	1944
Geissler Tubes with Hot Cathodes, Electrical Discharges in. W. H. McCurdy	130
" Glim " Lamp as a Detector of Ionising Radiations. O. v. Baeyer and W. Kutzner	1275
Glow-Discharge and the Electric Field, Potential for. L. Dreyfuss	938
" in Hydrogen and Air, Beginning of. K. Oelkers	2826
" Cathode-fall in, and Energy of Liberation of Electrons. A. Günther-Schulze	2313
" Discharge, Chemical Reactions in. A. Günther-Schulze	2864
" Energy Distribution in. A. Günther-Schulze	1890
" Laws of. A. Günther-Schulze	604
" Electronic Emission at Transition and Melting-Points. A. Goetz	605
" Multiple, in Vacuum Tubes. R. Seeliger and G. Mierdel	945
Gradient, Normal, in Gases. A. Günther-Schulze	1547
Helium, Low-Voltage Arc Light in. R. Bär, M. v. Laue and E. Meyer	615
" Metastable, Factors in Life of. A. J. Dempster	1538
" Life of. F. M. Kannenstine	1537
High Frequency, Electric Discharge of. C. Gutton	1266
" -Intensity Arc, Electrochemistry of. P. R. Bassett	2324
" Voltage, High-Frequency Discharge through Air, Heat Losses and Chemical Action in. F. Daniels, P. Keene and P. D. V. Manning	1897
Hydrogen and Nitrogen, Dissociation of, by Excited Mercury Atoms. O. S. Duffendack and K. T. Compton	2134
Impulse, Conservation of, during Stimulation and Ionisation-Shock. G. Joos and H. Kulenkampf	2669

For the Explanation of this Index see p. 1154.

Discharge in Gases and in Vacuo (Electric), including Discharge of	
Condensers, <i>see also</i> section Rays, <i>continued</i> .	
Iodide of Hydrogen by the Silent Discharge, Formation of. E. Warburg	1641
Ionisation Gauge. C. G. Found and S. Dushman	2317
Potential of Elements. Cecilia H. Payne	2707
Excitation and Dissociation of Gases. A. L. Hughes	2565
Thermic Equilibrium of. E. Fermi	3040
Ionising and Radiating Potentials. W. J. Clark	1262
Potentials for Hydrogen and Oxygen. H. D. Smyth	1263
Tension of Positive Ions. J. Franck	2564
Ions in the Glow Discharge. K. T. Compton and T. E. Foulke	602
Positive, from Hot Tungsten, Emission of. W. A. Jenkins	2136
Kathode Fall, Ionisation Potential, and Atomic Weight. A. Günther-Schulze	603
Normal, and Photoelectric Sensitiveness of Some Metallic Sulphides and Metallic Oxides. B. Aulenkamp	305
Fall, Normal, in Air. A. Schaufelberger	944
Falls in Gases, Normal, Calculation of. A. Günther-Schulze	1271
Normal, Current-Density of. A. Günther-Schulze	610
Rays in Matter, Loss of Velocity of. H. M. Terrill	607
Direct Measurement of Velocity of. F. Kirchner	2830
Passage of, through Matter. B. F. J. Schonland	131
Temperature in Glow Discharge of the Inert Gases. A. Rüttenauer	946
Kathodic Plate Current in the Mercury Vapour Discharge, Thermal Effect of. W. Schottky and J. v. Issendorff	2831
Stream-Density, Normal. R. Seeliger and J. Schmekel	1270
Kathodo Luminescence of Solid Solutions of Forty-Two Metals. T. Tanaka	1548
Light Arc with a Non-Incandescent Kathode, Existence of. H. Stolt	2829
Emission of the Alkalis, Centres of. E. Rupp	937
emitted from Solid Nitrogen when bombarded with Cathode Rays. L. Vegard	2093
Low-Velocity Electrons, Behaviour of, in Methane Gas. G. Glocker	1871
Luminescent Calcites, Aragonites and Dolomites, Active Agents in. T. Tanaka	1887
Fluorspars, Corundum and Spinal, Active Agents in. T. Tanaka	1889
Zinc Sulphides and Kunzites. T. Tanaka	2132
Luminosity of Vacuum Tubes in Neighbourhood of a Sparking Coil. D. B. Deodhar	2574
Luminous Discharge in Chlorine. W. A. Noyes, Jr.	2825
Impact, Illumination during Recombination, and Excitation Function. R. Seeliger	1445
Magnetic Field and Polarisation of Canal-ray Light. R. v. Hirsch	2747
upon Electric Discharge, Effect of. A. Pontremoli	608
Manometer, Ionisation. H. Simon	2409
Mass-Spectra. Part V. Accelerated Anode Rays. F. W. Aston	1274
Mechanical Force and Field Strength at the Kathode in a Discharge Tube. W. Braunbek	1268
Mercury Atoms, Excited, Estimation of Average Life of. L. A. Turner	1449
Lamp, Capillary. J. H. Vincent and G. D. Biggs	1990
Vapour Rectifier, Physics of the. A. Günther-Schulze	1546
Tube Current Wave Form, Effect of Shunts on. F. H. Newman	1893
Vapour, Metastable State in. H. W. Webb	2507
Metal Films, Deposit of, by Kathode Sputtering. Lambert and Andant	2135
Neon Discharge Tube, Low-Voltage, Critical Resistance for Flashing of. J. Taylor and W. Clarkson	2569
Lamp, Discharge in. U. A. Oschwald and A. G. Tarrant	2566
Properties of. U. A. Oschwald and A. G. Tarrant	2568
Nitrogen, Active Modification of. M. N. Saha and N. K. Sur	3043
Normal Current Density of Glow Discharge, Influence of Shape of. A. Günther-Schulze	2319
Oscillations, Ionic, in Striated Glow Discharge. R. Whiddington	304
"Osglim" Neon-filled Lamp, Properties of. J. H. Shaxby and J. C. Evans	2567
Ozone and Nitric Oxides by Electric Discharges. K. B. McEachron	1972
Laws of Formation of, by Discharge. A. Chassy	1971
Photoelectric Activity, Variation in. T. H. Osgood	2142
Effect, <i>see</i> separate section.	
Photographic Methods, Two, of Studying High-Voltage Discharges. K. B. McEachron	128

For the Explanation of this Index, *see* p. 1154.

	Abstract Nos.
Discharge in Gases and in Vacuo (Electric), including Discharge of	
Condensers, <i>see also</i> section Rays, <i>continued.</i>	
Polymorphic Transformation Energies, Some Cases of. A. Hare	3044
Positive Column of the Mercury Arc, Remarkable Property of. Influence of	
External Sheaths. L. Dunoyer and P. Toulon	2837
Potential Drop in Ionic Stream from Glowing Metals, Calculation of. M. v.	
Laue and N. Sen	3035
Pressure and Other Effects in Gaseous Discharges. I. Langmuir	947
Quartz Mercury Arc, Output of Radiation from. B. D. H. Watters	2754
Recoil Electrons by Polarised X-rays, Distribution of. G. E. M. Jauncey	2098
Rectifier, Glow Discharge, for Alternating Current. H. Kneser	609
Refraction, Mass of Ions and Molecules in the Light of the Atom Structure.	
K. Fajans and G. Joos	2239
Resonance and Ionisation Tensions. N. Semenov	600
Rotation of the Electric Discharge, Motion of the Gas in. C. E. Guye	954
Spontaneous, of the Electric Discharge. C. E. Guye	955
Scattering of Low-Speed Electrons by Platinum and Magnesium. C.	
Davison and C. H. Kunsman	592
Secondary Electrons from Metals, Emission of, under Electronic Bombardment.	
F. Horton and (Miss) A. C. Davies	939
Electrons, Emission of, from Metals under Electronic Bombardment.	
E. W. B. Gill	940
Short-Circuit Figures, Electrical. E. Möller	953
Skin Effect in Tubes. K. Försterling	1927
M. Wien	1928
Sound Measurements in Arc Lights with High-Frequency Currents. A.	
Hagenbach and M. Wehrli	2575
Space Charge between Concentric Spheres, Currents Limited by. I. Langmuir	
and Katharine B. Blodgett	2322
Spark Lag. W. Hiller and E. Regener	1892
Application of Law of Probability to. G. Polvani	3036
Sparkling-Potential of Gases. G. Holst and E. Oosterhuis	952
Square Wave of Radio-frequency, Method of Producing. J. L. Bowman	2326
Stellar Atmospheres, Cumulative Ionisation in. M. C. Johnson	2463
Ionisation in. Cecilia H. Payne	2501
Striated Discharge, Emission of Light in. R. Seeliger and J. Okubo	2827
Tesla Transformer, Potential Measurements with. Correction. M. Wolfke	317
Theory of the Electronic Current by Impact Ionisation. L. Heis	1261
Thermionic Emission, <i>see</i> separate section.	
Thoriated Tungsten Filament, Removal of Thorium from, by Bombardment.	
K. H. Kingdon and I. Langmuir	611
Triode Valve, Potential of Grid and Plate of, and Initial Velocity of Electrons.	
H. Nukiyama and T. Kuwashima	1882
Velocity of Positive Ions in the Crookes Dark Space. F. W. Aston	936
Wall-Currents: Theory of Positive Columns. W. Schottky	3037
X-rays, Influence of, on the Disruptive Discharge. G. Hammershaimb	281
Dispersion (Light).	
Anomalous Dispersion in the Vapours of Alkaline Metals. F. Rasetti	2486
Rotatory Dispersion of Tartaric Acid. T. M. Lowry and P. C. Austin	2259
Bohr's Quantum Theory, Absorption and Dispersion in. R. Becker	2925
Colour in Rock-Salt due to X-rays, Change of. P. Ludewig and F. Reuther	2519
Dispersion and Scattering of Light by Molecules. L. V. King	246
Investigated by Interference Method. H. F. Dawes	67
on the Quantum Hypothesis. K. F. Herzfeld	2071
Law of, and Bohr's Theory of Spectra. H. A. Kramers	2074
Double Refraction in Crystals, Dispersion of. C. Gaudefroy	828
in the same Crystal, Variations of Dispersion of. C. Gaudefroy	829
Gaseous Bodies, Dispersion of Light in. J. Koch	1782
Increasing the Dispersion of Constant Deviation Spectroscope. J. F. T. Young	65
Irregular Refraction, Dispersion by, and by Molecular Scattering. J. Spijkerboer	1759
Optical Dispersion and Selective Reflection. T. H. Havelock	2034
Optically Active Substances. R. Gans	2712
Refractivity and the Molecular Phase Hypothesis. L. E. C. C. Baly and	
R. A. Morton	2716

For the Explanation of this Index, see p. 1154.

Dispersion (Light), <i>continued</i>.	
Rotatory Crystalline Dispersion. L. Longchambon	2056
Dispersion in Absorbing Media. E. O. Hulburt	481
Water, Dispersion of, in the Ultra-Violet. J. Duclaux and P. Jeantet	2474
Dissociation and Ionisation (excluding Gases).	
Aqueous Perchloric Acid, Conductivity of. E. Linde	2359
Coagulation of Negatively Charged Suspensoids, Influence of Anions on. J. N. Mukherjee and S. G. Chaudhuri	2176
Conductivity of Solid Salts, Effects of Additions on. C. Tubandt and H. Reinhold	170
Corrosion, Submerged, Effect of Hydrogen-Ion Concentration on. W. G. Whitman, R. P. Russell and V. J. Altieri	2855
Cryoscopic Measurements, <i>see</i> section Freezing, Melting, and Boiling-Points.	
Deformability of Ions on the Optical and Chemical Constants, Effect of. M. Born and W. Heisenberg	2178
Diffusion of Molecules and Ions into the Solution of another Substance and the Retarding Action of their Solution. I. D. Götz and G. P. Pamfil	2361
Dissociation Equilibria, Theory of. C. G. Darwin and R. H. Fowler	1033
of Acids in Alcohols. E. Schreiner	2873
Double Layer, Electrical, Conception and Properties of, and its Relation to Ionic Migration. J. W. McBain	2870
Electro-diffusion. A. Gillet	174
Electrolytes, Osmotic Equation of State and Activity of. P. Debye	1957
Electrolytic Dissociation of some Salts in Furfural. F. H. Getman	1954
Electronic Theory and Heat of Formation of Salts. R. Audubert	2177
Hydrogen-Ion Concentration. E. Darms	1322
by a Spectro-photometric Method. W. R. Brode	1617
Measurements. W. T. Bowie	1618
Concentrations with Glass Electrode, Determination of. A. L. v. Steiger	2638
Interaction, Specific, of Ions, Principle of. J. M. Brønsted	1315
Inter-Ionic Attraction Theory of Ionised Solutes. A. A. Noyes	2169, 2170
Ionisation due to Electric Discharge, <i>see</i> section Discharge.	
of Atmosphere, <i>see</i> section Static Electricity.	
Problems, Newer Aspects of. H. S. Taylor	1318
Produced by Hydration of Quinine Sulphate. (Miss) Chamié	171
Ions in Dilute Solutions, Activity of. J. N. Brønsted and V. K. la Mer	1608
Theory of, and Molecular State of Water. V. Auger	1607
Mass-Action Law in Ionised Systems. W. Wessel	2872
Mobility of Ions in Liquids, Temperature Coefficient of. F. A. Lindemann	2607
Non-Ionised Acids, Nature of. Correction. A. Hantzsch	2859
Optical and Chemical Constants, Deformability of Ions on. W. Heisenberg	3089
Influence of Deformability of Ions on. H. Kornfeld	3090
Oxidation, Non-luminous, of Phosphorus in an Oxygen Atmosphere. (Lord) Rayleigh	2860
Secondary Ionisation Constants of Dibasic Acids, Determination of. T. Paul	2874
Solubility of Salts, Effect of Strong Electrolytes on. O. Schärer	2171
Solutions of KI in Nitromethane, Conductivity and Ionisation of. J. C. Philip and H. B. Oakley	2360
Strong Electrolytes, Theory of Debye applied to Dilution and Partition Coefficients of. P. Gross and O. Halpern	3074
Undissociated Acids, Nature of. H. v. Halban	685
Dynamics and General Mechanics.	
Aberration and Absolute Motion. R. Tomaschek	2207
Adiabatic Hypothesis, Extension of. K. Försterling	2437
Aeroplane Lift and Drag, Lanchester-Prandtl Theory of	1061
Wings, and Study of Birds' Wings. E. Huguenard, A. Magnan and A. Planiol	1060
Aluminium at High Temperatures, Tensile Properties of. T. Martin	2416
Bending Stresses in Thin-Walled Tubes. J. Case	737
Birds' Wings and Aeroplane Wings, Study of. E. Huguenard, A. Magnan and A. Planiol	1060
Camera, High-Speed, for Study of Projectiles. H. L. Curtis, W. H. Wadleigh and A. H. Sellman	2406

For the Explanation of this Index see p. 1154.

Dynamics and General Mechanics, continued.	
Circular Cubics, Singular Points of. H. Pflieger-Haertel	2657
Coefficient of Permeability of Clay from the Course of Hydrodynamical Pressure. K. v. Terzaghi	2422
Dampings, Linear and Exponential. E. H. Barton and H. M. Browning	7
Deformation of Bent Prisms, Influence of Shearing Force on. O. Sesini	403
Degenerate Systems in Disturbed Motion Calculus. L. Nordheim	25, 764
Dimensional Analysis. E. Buckingham	2668
Disturbed Kepler Motion, Course of the Motion and Quantum States of. W. Lenz	2430
Dynamical and Kinematical Velocity in Einstein Relativity. P. A. M. Dirac	2205
Dynamics, Stroud System of Teaching. J. B. Henderson	4
Eddies in Air. H. Nisi and A. W. Porter	207
Einstein's and Newton's Equations of Motion. L. Silberstein	1079
Gravitational Theory, <i>see</i> section Gravity.	
Elastic Stresses in an Isotropic Body. R. F. Gwyther	2419
Energy Values, Special, in Mechanical Systems. A. Klose	22
Equipartition of Energy in a System Comprising Vibrating or Rotating Particles, Inapplicability of. G. Jaffé	2897
Explosions under Water, Mass-Movement in. C. Ramsauer	11
Flight, Soaring. N. V. Karpen	394
Flow of Gas through a Jet. B. L. Montel and E. Foà	10
Discontinuous, of Liquid past a Wedge of Small Angle. W. B. Morton	2653
Fluid Friction and Heat Transference. T. B. Morley	2294
Streams, Stability and Turbulence of. W. Heisenberg	2902
Resistance by, in Turbulent Motion. J. M. Burgers	409
Friction Theory, Internal, of Shaft Whirling. A. L. Kimball	1666
Internal, in Glass and Quartz Filaments. A. Pazziani and C. E. Guye	2386
Sliding, Variation of Coefficient of, with State of Surfaces in Contact. M. Fichter	2387
Solid, Researches on. G. Sachs	1667
Graphical Methods of Calculation. C. Runge	2385
Gravitation and Newton's Third Law. G. Manefi	2446
<i>see</i> separate section.	
Hydrodynamic Similarity. C. Camichel and L. Escande	749
Hydrodynamics, Similitude in. L. Escande and M. Ricaud	1672
Impact of a Pair of Bars of Steel and Copper, Duration of. E. W. Tschudi	2417
Impacts, Duration of. J. E. P. Wagstaff	2001, 2899
Impulse, Conservation of, during Stimulation and Ionisation-Shock. G. Joos and H. Kulenkampf	2669
Inertia of a Sphere Vibrating in a Liquid, Determination of. N. C. Krishnaiyar	746
Internal Pressures of Solids and Liquids. T. W. Richards	2428
Stress in Brass Tubing. R. J. Anderson and E. G. Fahlman	2420
Irregular or Polygonal Periodic Functions. L. Labocetta	2655
Kepler Ellipse, Adiabatic Transformation of, into the Harmonic Ellipse. H. Geppert	2429
Laminar Shearing Motion, Stability of, in a Viscous Incompressible Fluid. R. V. Southwell	2652
Law of Fall of a Sphere through a Gas and the Nature of Molecular Reflection. R. A. Millikan	208
Light, Velocity of. M. la Rosa	2470
Long Waves in Canals of Varying Section, Equation of. N. Sen	2900
Lubrication, $\pi n/p$ Function: Does it fit the Facts? A. E. Becker	2894
Mass as a Function of Gravitational Potential. A. H. Bucherer	2674
Metals, Valve Method of Detecting Slipping in. C. Handford	1995
Molecular Fields and Cohesion. H. Chatley	2426
Motion of Fluids, and Minimum Energy. W. Hovgaard	404
of Solid Bodies in Rotating Fluids. G. I. Taylor	12
Optical Effects of. P. Zeeman	2225
Suitable Example of, in General Problem of Three Bodies. K. Bohlin	2656
Moving Continuous Media, Electromagnetic Waves in. L. Roy	2577
Non-Metric Tensor Calculus. A. Buhl	2929
Optical Collineation without Reference to Metrics. L. Silberstein	2037
Paradox of d'Alembert. U. Cisotti	2658
Pendular Systems and Horizontal Acceleration. M. Schuler	3
Plate with a Circular Hole, Stresses in. S. Timoshenko	1668
For the Explanation of this Index see p. 1184.	

Dynamics and General Mechanics, continued.	
Potential Theory, Hypothesis of. A. Tauber	1692
..... Euler's Knowledge of Idea of. R. Brenneke	2427
Powders, Variation of Pressure with Depth in Columns of. J. H. Shaxby and J. C. Evans	192
Precession of a Rounded Body Rolling on a Table. G. Greenhill	1055
Projectile, Initial Motion of. E. T. Hanson	747
Propagation of Light and Several New Investigations of Rudolph Tomaschek	2903
..... Ballistic Principle in. M. la Rosa	2677
Quantum Mechanics. M. Born	2677
Radiation Pressure and Adiabatic Invariance, Dynamical Illustrations of. T. H. Havelock	2005
Real and Apparent Velocities. A. V. Douglas	2459
Relativistic Dynamics treated by Hamilton-Jacobi Method, Central Orbits in. G. Temple	2670
..... Motion of Rigid Solid. G. Lemaitre	2671
Relativity, see separate section.	
Resonance, Torsional, of Shafts. C. Platrier	2003
Rotating Shaft poised on Two Cushions, Movement of. C. Melli	8
Rotation of a Sphere in Rarefied Gas. G. Breit	2004
Selection Principle. C. N. Wall	2923
Series Electrons in the Sodium Atom, Orbits and Transition Probabilities of. W. Thomas	2431
Settling of Small Particles in a Fluid. M. Mason and W. Weaver	1676
Shaft Whirling, Internal Friction Theory of. A. L. Kimball	1666
de Sitter Space-Time. P. du Val	2204
de Sitter's Space-Time, Curvature Invariant of. L. Silberstein	2203
Space-Time, Curvature Invariant of. L. Silberstein	2234
..... H. Weyl	2076
Spheres, Resistance experienced by, in their Motion through Gases. P. S. Epstein	2425
Spherical Bodies of Unequal Diameter and Densities at Very Low Velocities, Collision of. D. B. Deodhar	2898
..... Source in a Rotating Liquid. S. F. Grace	2424
Spinning Rod, Spontaneous Loss of Energy by. A. S. Eddington	1085
Stars of Spectral Class R, Radial Velocities of. R. F. Sanford	2460
Stress Distribution, Optical Investigation of. W. Birmbaum	2418
Thermal Stress, Theory of, in Cylinder. T. Matsumura	400
Two-Dimensional Elastic Problems, Approximate Solution of. S. Timoshenko	2415
Velocity of Particles of Coal Falling in Air. J. Blizard	1373
Vibrating Bodies in Fluids, Motion of. G. Mayr	1056
..... Disc, Reaction of Air to. E. T. Hanson	1056
Vibrations, Damped. C. K. Jenkin and W. N. Thomas	1063
..... Superposed, Energy Fluctuations from. M. Planck	1057
..... Torsional, in a Shaft. C. Platrier	2002
Virtual Velocities and Theory of Elastic Structures. E. H. Lamb	2606
Wave-Motion in Three Barotropic Fluid Strata. L. Högborg	1673
..... Models having "Dispersion" and "Filter" Properties. T. Breda	
..... Brown	1372
..... Quasi-Static, in Barotropic Fluid Strata. V. Bjerknes	1671
Wave-Power Transmission. E. A. Barclay-Smith	2901
Waves due to a Single Impulse in Deep and Shallow Water. G. Green	723
..... Surface. F. M. Exner	725
Whirling of Shafts. In Frith and P. Buckingham	750
Yéling's Modulus at High Temperatures. C. H. Lees, J. P. Andrews and L. S. Shave	2893
..... Elasticity (see also section Metallography)	
Airy Potential Function. W. Gauster	2423
Aluminum at High Temperatures, Tensile Properties of. T. Martin	2416
Bending Stresses in Thin-Walled Tubes. J. Case	737
..... Theory of. W. Hovgaard	206
Celluloid, Elasticity of, with Reference to Optical Stress-Measurement. H. E. E. Martin	1051
Compressibility of the Alkali Halides. J. C. Slater	1669
Copper Wire, Experiments on. D. H. Ingall	1374

For the Explanation of this Index see p. 1164.

- Elasticity** (see also section Metallography), *continued*.....
- Copper, Commercially Pure, Relation between Tensile Strength and Electrical Resistivity of. W. E. Alkins..... 3047
- Elastic Deformation of a Thick Plate. C. A. Garabedian, Mesnager..... 1050
- Distortions. I. Terni..... 1369
- Impact of Pianoforte Hammer. S. Bhargava and R. N. Ghosh..... 2304
- Elasticity and Internal Pressure. K. v. Terzaghi..... 1049
- of Colloidal Solutions. A. Szegvari..... 2174
- Energy Relation, Value of, in Testing of Ferrous Metals. T. M. Jasper..... 202
- Equations of Elastic Stress, General, Solution of. R. F. Gwyther..... 1674
- Glass, Elastic Constants of Focal Line Method of Determining. G. F. C. Searle..... 469
- Hardness, Measurement of. Plaut..... 730
- Internal Stress in Brass Tubing. R. J. Anderson and E. G. Fahman..... 2420
- Isothermals of Some Gases (N_2 , O_2 , H_2 , A and He, etc.), up to $400^\circ C$ and their Significance for Gas Thermometry. L. Holborn and J. Otto..... 1849
- Jellies and Electric Deformation, Elasticity of. F. Michaud..... 1364
- Mercury, Equation of State and Compressibility of. K. K. Järvinen..... 1850
- Metals, Elasticity of. W. Geiss..... 378
- As Affected by Temperature. C. Schaefer..... 203
- Organo-Gels of Cellulose Acetate, Elasticity of. E. W. J. Mardles..... 343
- Photo-elastic Constants of Celluloid, Glass and Quartz. P. Heymans and W. P. Allis..... 745
- Plasticity and Elasticity. E. C. Bingham..... 1366
- Rocks, Thermal Conductivity and Compressibility of. F. W. Bridgman..... 1063
- Selenium Crystals, Coefficient of Rigidity and Young's Modulus for. L. P. Siegel and R. F. Miller..... 205
- Stress-Strain Problems by Means of X-rays, Study of..... 757
- Temperature on Properties of Metals, Effect of. A. Mallock..... 1835
- Torsion Modulus of Eureka Wire when Stretched. J. B. Deodhar..... 1048
- Tungsten-Wire, Incandescent, Rigidity of. W. Schriever..... 1665
- Two-Dimensional Elastic Problems, Approximate Solution of. S. Timoshenko..... 2415
- Vibration (Acoustic) Figures of Rolled Plates, after Recrystallisation, Alteration of. E. Schröder and G. Tammann..... 2363
- Vibrations, see also sections Sound and Dynamics.....
- Virtual Velocities and Theory of Elastic Structures. E. H. Lamb..... 2896
- Young's Modulus and Atomic Volume. A. Portevin..... 384
- Zinc and Iron, Time Law of Inelastic Deformation of. O. Brezina..... 204
- Electric Furnace Processes**.....
- Zirconium, Fused, Preparation of. H. S. Cooper..... 1837
- Electrolysis**.....
- Adsorption and Cataphoresis. K. v. d. Grinten..... 2842
- Alloys Sb-Cu and Sb-Bi, Electrolytic Deposition of. A. Mazzucchelli and Lucia Tonini..... 1044
- Alternating Current in Direct-Current Electrolysis. W. B. Jones..... 704
- Aluminium Anode, Electrolysis with. F. H. Jeffery..... 708
- Electrolytic Protective Oxide Coating on. A. Günther-Schulze..... 2648
- Analysis, Separation, and Estimation (Electrolytic), see section Electrolytic Analysis.....
- Anode Effect, Investigation of. K. Arndt and H. Probst..... 169
- Anodic Polarised Platinum Electrodes, Influence of Light and Röntgen Rays on. G. Grube and L. Baumeister..... 2375
- Processes, Influence of Obstructive Films on. U. R. Evans..... 2641
- Antimony, Electro-deposition of. J. C. Ghosh and A. N. Kappana..... 7478
- Bubbles, Electrolytic, Electrostatic Phenomena in. A. Coehn and H. Neumann Case Hardening, Prevention of, by Copper Plating. J. C. McCullough and O. M. Reiff..... 2876
- Catalytic Action of Nitrous Acid. W. D. Basoroff..... 3097
- Cataphoresis of a Sphere. E. Hückel..... 2196
- Cataphoretic Migration of Suspended Particles. P. Debye and E. Hückel..... 1631
- Mobilities of Oil Drops in Water. M. Mooney..... 1960
- Gaustic Soda, Absorption of CO_2 by, during Electrolysis. C. F. Holmboe..... 702
- Chlorate, Electrolytic Production of. G. Grube and A. Burckhardt..... 1842
- Chlorination, Electrolytic and Chemical, of Benzene. A. Lowy and H. S. Frank..... 1639
- Chromic Acid, Periodic Phenomena in Electrolysis of. J. R. Liebreich..... 1976
- on Electrolysis of. A. Klefner..... 499

For the Explanation of this Index see p. 1154.

1000 1000000

Electrolysis, continued.

Abstract Nos.

- Chromium-plating of Steel with Chromium Anodes. K. W. Schwartz 2380
- Behaviour of, during Electrolysis. N. Igarischew and A. Obrutz 700
- Electro-Chemical Behaviour of. N. Bouman 3095
- Electrolytic Deposition of. K. Oyabu 711
- Colloids in Electrolysis and Overvoltage. C. Marie and R. Audubert 1043
- Concentration Cells and Electrolysis of Sodium Ethoxide Solutions. M. Shikata 2865
- Corrosion, Electrolytic Theory of. W. D. Bancroft 3075
- in a Water Gas Holder. F. H. Rhodes and E. B. Johnson 2851
- Paradox in. U. R. Evans 2354
- Submerged, of Steel, Effect of Hydrogen-Ion Concentration on. W. G. Whitman, R. P. Russell and V. J. Altieri 2855
- Depolarisation of the Chlorine Electrode by Organic Compounds. M. A. Youtz 1629
- Deposition of Iron containing Carbon by Electrolysis of Iron Oxalate. W. Sontag 2378
- Diaminodiphenylsulphone, Preparation of. J. Lacroix 1643
- Electric Field of the Electrolytic Cell. A. A. Ahmed 1530
- Electric Suspension. A. Smits 2165
- Electrical Field, General Formulation of Movement in. Mary E. Laing 2871
- Electro-deposited Metals, Crystalline Form of. W. Blum and H. S. Rawdon 2377
- Electrode Potential, Significance of. Reply to Criticism of J. A. V. Butler. J. Heyrovsky 2187
- Reversible, Mechanism of. E. K. Rideal 2636
- Ultramicroscopic Observations of. V. Kohlshütter 1974
- Electrodiffusion. A. Gillet 174
- Electrolytes under High Frequencies, Conductivity of. J. Granier 2334
- Binary, Theory of. W. Sementschenko 3099
- Dielectric Constants of Solutions of. O. Bluh 2517
- Strong Constitution of. C. Drucker and G. Riethel 2614
- Electrolytic Cells at Radio Frequencies, Polarisation Capacity and Resistance of. C. B. Jolliffe 694
- Double Layer, Problem of. J. E. P. Wagstaff 2195
- Ions, Anomalous Mobility of. H. Schmick 2374
- Potential of Calcium. M. Tamele 2186
- Reduction of Tungstic Acid in Hydrochloric Acid Solution. O. Collenberg and J. Backer 2194
- Solutions, Dielectric Constants of. P. Walden and H. Ulich 2584
- Electrolytically Chromium-plated Metals. E. Liebreich 2379
- Prepared Sheet Metal, Union of. G. Eger 2193
- Electromotive Behaviour of Magnesium. A. Smits 2191
- Equilibrium and Polarisation. A. Smits 2635
- Electrosmosis and Electrophoresis. O. C. Ralston 1041
- Eugenol, Electrolytic Oxidation of. Al Lowy and Catherine M. Moore 1638
- Fused Electrolytes, Conductivity of. W. Biltz and W. Klemm 2646
- Salts, Electrolysis of. R. Lorenz 2668
- Gold Oxidation, Anodic. F. Jirsa and H. Jelinek 2650
- Hydrogen Ion Concentrations with Glass Electrode. Determination of. A. L. v. Steiger 2638
- of Ions, Velocity of, in Gels. N. Igarischew and A. Pomeranzew 1037
- Overvoltage of Metals and their Characteristic Properties. E. J. Weeks 2085
- Overvoltage of Zinc. G. M. Westrip 2192
- Pure, Electrolytic Generator for. Elvede and E. Sinks 1045
- Industrial Electrolysis, Plating and Refining. See Section B.
- Intermittent Current Electrolysis and Overvoltage. S. Glasstone 178
- Iron, Electrolytic Corrosion of. W. E. Hughes 707
- Irreversible Electrode Phenomena. H. T. Ellingham and A. J. Allmand 2632
- Jellies and Electric Deformation, Elasticity of. R. Michaud 1364
- Kathodic Behaviour of Alloys. S. Glasstone 3082
- Ketones, Kathodic Reduction of. C. Schall and W. Kretschmer 740
- Lead, Dissolution of, in Caustic Alkali by Alternating Currents. F. Jirsa and 1975
- Electrolytic Crystallisation of. V. Kohlshütter and F. Uebachs 1973
- Manganese, Electro-deposition of. A. J. Allmand and A. M. Campbell 2646
- For the Explanation of this Index see p. 1161

- Electrolysis, continued.**
- Manganese, Electrolytic, Properties of. A. N. Campbell 1046
- Mass Action Law in Ionised Systems. W. Wessel 2872
- Measurement of Inaccessible Potentials with a Controlled Oxygen Electrode. A. K. Goard and E. K. Rideal 2633
- Mercury-dropping Kathode, Processes at. J. Heyrovský 2639
- Metallic Electrolytic Deposits, Fibrous Structure in. R. Glocker and E. Kaupp 2197
- Nickel Deposition studied by Contractometer. E. A. Vuilleumier 1328
- in Disperse Form, Electrolytic Deposition of. F. Thorén 1640
- Influence of Temperature on Polarisation of. S. Triandafil 2647
- Ortho-Amidophenol and Ortho-Nitrophenol, Electrolytic Preparation of. O. W. Brown and J. C. Warner 364
- Overvoltage Compounds, Life Period of. E. Newbery 1967
- in Electric Reactions 2875
- Measurements. H. J. S. Sand and E. J. Weeks 706
- of the Lead Electrode. S. Glasstone 705
- on Hydrogen-Ion Concentration, Dependence of. H. J. S. Sand and E. J. Weeks 1636
- Effect of Current Density on. M. Knobel, P. Caplan and M. Eisman 1968
- Effect of Pressure on. S. J. Bircher and W. D. Harkins 1635
- Temperature on. M. Knobel and D. B. Joy 2376
- Gas Film Theory of. N. V. S. Knibbs 2644
- Influence of Fluorides on. N. Igarischew and D. Stepanow 1634
- Measurement and Cause of. S. Glasstone 2643
- of. S. Glasstone 1633
- Oxygen, of Artificial Magnetite. H. C. Howard 1329
- Oxidation Potentials of the Molybdenum and Tungsten Octocyanides. O. Collenberg 2189
- Oxygen, Catalytic Electrolytic Generation of. C. G. Fink 2649
- Para-Aminophenol, Electrolytic Preparation of. J. C. Warner and O. W. Brown 709
- Passive Film. R. Steinherz 2355
- Passivity and Kathodic Overvoltage. E. Liebreich and W. Wiederholt 2642
- of Iron Electrodes. C. F. Holmboe 1632
- Effect of Short Circuits on. C. F. Holmboe 701
- of Metals, with Particular Reference to Iron. W. J. Müller 3098
- Phase Boundary Potentials. L. Michaelis and A. Fujita 2629
- Thermodynamic, Theory of. E. Abel 2630
- Photo-voltaic Cell, Behaviour of Silver Iodide in. A. Garrison 2190
- Polarisation Capacity and Phase Angle, Direct Measurement of. C. W. Miller 1968
- (Electrolytic), *see also* separate section.
- Potassium Oleate, Electrolysis of. G. W. F. Holroyd and J. E. W. Rhodes 1644
- Potassium-Sodium Alloys, Electrolysis of. R. Kremann and R. G. v. Rehenburg 2667
- Potential Difference at the Boundary of Two Phases. D. Reichinstein 2188
- Potentials, Electrode, in Non-Aqueous Solutions. E. Baur 2634
- Precipitates, Electrolytic Purification of. A. Charriou 1626
- Rectifier, Electrolytic, *see also* section Polarisation (Electrolytic).
- Separation of Metals, Electrolytic, Apparatus for. A. Lassieur 1047
- Short-Circuit Effect, Electrolytic. C. F. Holmboe 1632
- Soda-Lime Glass, Electrolysis of. I. Evolution of Gas and its Relation to Sorption and Conductivity. J. W. Rebbeck and J. B. Ferguson 3100
- Sodium Chlorate, Oxidation of. H. G. Howard 1329
- Solid Electrolytes, Migration of Ions in. M. le Blanc and M. Kröger 2613
- Strong Electrolytes, Theory of Debye applied to Dilution and Partition Coefficients of. P. Gross and O. Halpern 3074
- Structure in Electro-deposited Metal. W. E. Hughes 2706
- Suspensions of Electrolytes added in Quantities too small to effect Flocculation, Protective Effect on. A. Boutaric and (Miss) G. Perreau 2669
- Thallium Sulphate, Oxide formed during Electrolysis of Solutions of. A. Guthrie and W. Dieterle 712
- Tin Baths, Acid, Electro-chemistry of. F. Halla 1630
- Transference Numbers and Ionic Complexity of Hydrofluoric Acid Solutions. C. W. Davies and L. J. Hudleston 1625
- Numbers of Hydrochloric Acid, Influence of Gelatin on. W. G. France and W. H. Moran 1624

For the Explanation of this Index *see* p. 1154.

Electrolysis, continued.

Transference Numbers, Determining. D. A. McInnes and E. R. Smith	698
Volta-Luminescence. J. Lifschitz	1327
Zinc, Electroplated, and Diffusion of Deposits into Zinc. W. G. Traub	1046
Hydrogen Overvoltage and C.D. in Electro-deposition of. U. C. Tainton	703

Electrolytic Analysis.

Acidity and Alkalinity, Electrometric Measurement of. W. T. Bowie	1614
Air Electrode, Use of. G. S. Tilley and O. C. Ralston	1963
Antimony, Electrolytic Estimation of. A. Lassieur	168
Arsenic, Single Potential of. L. Kahlenberg and J. V. Steinele	2373
Dissociation of Acids in Alcohols. E. Schreiner	2873
Electrometric Acid Titration. F. Auerbach and E. Smolczyk	2637
Study of the Hydrolysis of Salts. P. Job	2854
Electrometric Titration of Chromic Acid, using (a) the Hydrogen Electrode, and (b) the Oxygen Electrode. H. T. S. Britton	3096
Titration of Iodate, Bromate, Chlorate and Ferricyanide with	
Titanous Sulphate. W. S. Hendrixson	165
Electromotive Force of a Hydrogen Calomel Cell, Effect of Hydrogen Pressure on. W. R. Hainsworth, H. J. Rowley and D. A. McInnes	2372
Electro-titration with the Aid of the Air Electrode. N. H. Furman	1631
Free Energy and Heat Content of Arsenious Trioxide and the Reduction Potential of Arsenic. R. Schumann	2370
Glasses, Electromotive Properties of. H. Schiller	2371
Hydrolytic Reactions, Inorganic. G. S. Tilley and O. C. Ralston	1963
Oxidation and Reduction Potentials of Organic Compounds. E. Büllmann	2631
Quinhydrone Electrode as Comparison Electrode. S. Veibel	363
Separation of Bismuth and Antimony. A. Lassieur	1047
of Silver, Copper and Bismuth by Graded Potentials. A. Lassieur	1628
Thallium Sulphate, Oxide formed during Electrolysis of Solutions of. A. Gutbier and W. Dieterle	712
Estimation of, by Anodic Deposition of Thallous Oxide. W. Dieterle	1038
Tungsten Wire for Hydrogen-Ion Determinations. J. R. Baylis	362
Vanadium and Uranium, Electrometric Estimation of. E. Müller and A. Flath	1040

Electromagnetic Theory.

Auto-Transformer and Impedance as Tensor. W. H. Ingram	2344
Deformations of Liquid Streams carrying Powerful Currents. L. Lombardi	152
Dielectric in the Light of the New Theory of the Atom. G. Jacoby	2920
Electric Fields Due to Motion of Tubes of Magnetic Induction. L. Kneissler	2598
Electrodynamics, Atmospheric. F. Schindelhauer	2211
Electromagnetic Equations as Basis of Einstein's Quadratic Form. R. Hargreaves	2563
Equations of Dimensions. E. Brylinski	2305
Field of Bodies in Motion. P. Gruner	1403
Induction in a Homogeneous Solid Conducting Sphere. A. Marcus	2309
Laws, Carl Hering on. L. Brüningshaus	301
Theory of Rotatory Polarisation. H. Chipart	2067
Electron in Movement, Electromagnetic Field of. F. J. de Wiśniewski	2562
in Quantum Theory, Explosion of. C. E. Guye	2307
Theory of Aberration and Lorentz Transformations. D. N. Mallik	3018
Electromagnetic Field of, in Movement. F. J. de Wiśniewski	584
Electrons, Scattering of, by Positive Nucleus. C. Davison	311
Two, Mutual Mass of. E. Persico	923
Equilibrium and Deformation of Conducting Systems Traversed by Currents and of Magnetic Bodies without Hysteresis. A. Liénard	1248
Fitzgerald-Lorentz Contraction and Pashsky's Theorem. N. v. Rashevsky	585
Liquid Streams carrying Powerful Currents, Deformations of. L. Lombardi	2599
Magnetic Fields, Graphical Determination of. T. Lehmann	125
Intrinsic. L. Page	586
Force produced by Circular Electric Current. E. Mathy	300
Magneton Numbers and Atomic Structure. J. Dorfmann	2008
Maxwell Equations, Possible Solution of. F. J. v. Wiśniewski	3015
Maxwellian Radiation; Dielectric Properties Required for. A. Press	3016
Moving Continuous Media, Electric Currents in. L. Roy	2306
Poincaré Electron in Weyl's Geometry, Space-Time Forms of. J. Marshall	299

For the Explanation of this Index see p. 1154.

Electromagnetic Theory, continued.	
Potential, Intrinsic, Effect of Transition Layer on. P. V. Wells	1862
Poynting's Theorem and Ray Propagation in Optically Active Media. H. Chipart	2066
Prolate Iron Spheroid Rotating in a Magnetic Field, Charging Effect of. E. Lawrence	2160
Rayleigh Reciprocal Theorem, Generalisation of. J. R. Carson	3017
Scattering of Light in Fluids, Electromagnetic Theory of. K. R. Ramanathan	2488
Spherical Electric Layer, Inertia of, and Emission of Quanta. C. E. Guye	2308
Thermal Energy of Electrons in Metals. E. D. Eastman, A. M. Williams and T. F. Young	2128
Transformation of Electric and Magnetic Forces. V. Karapetoff	2130
X-Ray Corpuscular Emission from Iron in a Magnetised and Unmagnetised State. G. A. Carse and D. Jack	2161
Electro-Physiology and Electrotherapeutics, Radio-Therapy and Radiography.	
Electricity to Medicine and Surgery, Application of. G. Panbianco	1005
Lamps, Vacuum, Illumination of by Friction. H. Cardot and H. Laugier	1276
Radiography, Cinematographic, of the Human Heart. Comandon and Lomon	1587
Radiologist, Protection of. P. Angeband	3067
Radiometer, Clinical X-ray Balance. L. H. Clark	2841
X-ray Diagnosis, Use of Heavy Gases in. R. Ledoux-Lebard, A. Lepape and A. Dauvillier	672
Protective Materials, Measurements upon. H. Franke	1004
Technique, Recent Advances in. M. A. Codd	1588
Therapy, Experiments with Modern Plant for. E. Pugno-Vanoni	1576n
Freezing-, Melting-, and Boiling-Points.	
Apparatus for Determining Melting- and Freezing-Points. E. W. Washburn	1843
Boiling-Points of Oxygen, Nitrogen and Hydrogen. F. Henning and W. Heuse	1845
Melting-Point Determinations, Comparison of Heating-Curve and Quenching Methods of. G. W. Morey	892
Point of Ice. L. B. Smith and R. S. Taylor	118
Points, New Standard, at High Temperatures ($K_2Cr_2O_7$, KCl, NaCl, Na_2SO_4 , K_2SO_4 , $Ca_3B_2O_6$). H. S. Roberts	1844
Three-Temperatures Rule. C. Porlezza	896
Tungsten, Emissive Power and Melting-Point of. A. G. Worthing	1509
Water, Freezing of, in Capillary Systems. E. A. Fisher	1510
Gases and Vapours (see also section Thermodynamics).	
Adiabatics, Construction of, for Large Temperature Changes and Variations of Cp: Cv. F. Magyar	2996
Air-Water-Vapour Mixtures, Diagram for. R. Mollier	7n
Argon, Crystal Structure of. F. Simon and C. v. Simson	2442
Association, Evidence of in Carbon Dioxide from the Joule-Thomson Effect. F. G. Keyes	2809
Atoms of the Inert Gases, Diameters of. J. E. Calthrop	2661
Chemical Constants of Chlorine, Bromine, and Iodine in the Mono- and Diatomic States. K. Wohl	3091
Constants of Monatomic Gases. F. Simon	3092
Compressibility of Gases under High Pressure. P. W. Bridgman	1356
Condensation of Supersaturated Rarefied Vapours. L. Wertenstein	1073
Diatomic Gases at Low Temperatures, Thermal Molecular Conductivity and Molecular Heat of. E. Schreiner	2992
Dispersion and Scattering of Light by Molecules. L. V. King	246
Dissociation under a Temperature Gradient. P. A. M. Dirac	2624
Effusion of Some Vapours, Experiments on. E. Voss	1357
Electro-chemistry of Gases. S. C. Lind	1949
Entropy of Real Gases, Absolute Value of. V. Njegovan	2299
Equation of State of a Gas. J. E. Jones	2298
Equations of Movement of a Gas. Y. Rocard	2296
Flames containing Metallic Vapours, Electrical Conductivity of. E. Zachmann	2836
Flow of Compressible Fluids, treated Dimensionally. W. N. Bond	3006
Gas Degeneration (Gasentartung) and the Zero-Point Energy, Theory of. K. Bennewitz	2805
Gaseous Systems, Thermal Method for Study of. G. Piccardi	2843

For the Explanation of this Index see p. 1154.

Gases and Vapours (<i>see also</i> section Thermodynamics), <i>continued</i>	
Hydrogen, Chemical Constant of. W. H. van de S. Bakhuysen	2549
Imperfect Gases. N. Carrara	1228
Internal Heat of Vaporisation, Relations concerning. J. E. Mills and P. K. Smith	1116
Ionisation, Thermal, of Gases. R. Becker	575
Joule-Thomson Effect in CO ₂ . E. S. Burnett	1514
Report on. H. M. Davis	895
Work at Harvard University on. R. V. Kleinschmidt	894
Kinetic Theory of Viscosity, Conduction and Diffusion. S. Chapman and W. Hainsworth	2810
Properties of Gases in High and Low Vacua. E. Rutherford	1358
Quanta, the Kinetic Theory of Gases, and the Principle of Fermat. L. de Broglie	578
Quantum Theory of Monatomic Perfect Gases. G. Schay	2555
Statistical Entropy and Molecular Number. L. Nordheim	2811
Theory of Spontaneous Fluctuations in Energy, Pressure, and Density. K. C. Kar	219
Temperature, Critical, in Condensation of Metal-Vapours. J. Chariton and N. Semenov	2550
Vapour Composition and Vapour Pressure in Binary Mixtures. W. K. Lewis and E. V. Murphree	1225
from Solution, Temperature of. O. Knoblauch and H. Reiher	899
F. Pollitzer	900
K. Schreber	901
Pressure, <i>see</i> separate section.	
Pressures and Composition of Vapour of Aqueous Solutions of Hydrochloric and Hydrobromic Acids at Different Temperatures. M. Wreusky, N. Sawaritzky and L. Scharloff	3003
Volume Changes of Gases under High Pressures. P. W. Bridgman	379
van der Waals' Equation; Significance of. J. H. Jeans	907
Value of "b" in. W. Herz	908
Water-Vapour computed on Basis of its Specific Heat. O. Knoblauch, E. Raich and H. Hansen	114
Viscous Properties of. C. J. Smith	2890
Gravitation.	
Cosmology, Stationary, in the Sense of Einstein's Gravitational Theory. K. Lanczos	2013
Dynamical Theory of Gravitation, <i>see also</i> section Dynamics.	
Einstein Effect and Deflection of Light, <i>see also</i> sections Astronomy and Relativity.	
Gravitational Theory, Solutions in. W. Alexandrow	30
Einstein's and Newton's Equations of Motion. L. Silberstein	1079
Electric Field of Sphere surrounding a Centre of Gravitation. G. Mie	24
Eötvös Balance. W. Schweydar	739
Gravitation. A. S. Eddington	1084
and Inertia. F. Riedinger	425
and Newton's Third Law. G. Manef	2448
upon Light from the Standpoint of the Ether Theory, Influence of. R. Hiecke	2444
Connection between Schwarzschild, Einstein, and Trefftz's Solutions of Equations of. M. v. Laue	220
Propagation of. E. Anding	2201
Gravitational Anisotropy in Crystals. P. R. Heyl	2078
Displacement of Fraunhofer Lines. C. E. St. John	771
Field at Surfaces of Discontinuity. N. Sen	1405
Gravity and Magnetic Anomalies at Koursk, Russia. P. Lasareff	782
Anomaly, Koursk, Central Russia. P. Lasareff	3062
at the Melbourne Observatory. E. F. J. Love	365
Gradients in Toné Basin. I. Yamamoto	228
Isostasy. W. Bowie	229
Mackenzie Basin, Gravity Results in. A. H. Miller	783
Mass and Weight, Proportionality of. H. H. Potter	731
as a Function of Gravitational Potential. A. H. Bucherer	2674
Matter in the Einstein Theory of Gravitation. K. Lanczos	2675

For the Explanation of this Index see p. 1154.

Gravitation, continued.	
Michelson Experiment. N. v. Raschevsky	1009
Ocean Depths, Measurement of, by Acoustical Methods. H. C. Hayes	1987
Pendulum Observations, Dutch, in Submarines. J. J. A. Muller	732
de Sitter World. M. v. Laue and N. Sen	2011
Temperature on Gravitative Attraction, Effect of. P. E. Shaw and N. Davy	219
Terrestrial Magnetism and those of Gravity, Anomalies of. P. Lasareff	3061
Weight-Mass Ratios: New Gravitational Experiments. C. F. Brush	375
Inductance (Self and Mutual).	
Coils, Single-Layer, Alternating-Current Resistance and Inductance of. C. N. Hickman	984
Impedance Theorem, Campbell's Driving-Point. R. M. Foster	2343
Impedances, Mutual, of Earthed Circuits. G. A. Campbell	1291
Measurements, <i>see</i> separate section.	
Interference.	
Achromatic and Superchromatic Fringes. C. Barus	474
Colloidal Particles, Scattering of Light by. W. Shoulejkin	2714
Colour of the Sea. K. R. Ramanathan	456
Diffraction at the Edge of a Black Screen. E. Maey	815
" by a Circular Aperture. S. Smith	1779
" Effects in Spherical Aberration. J. Fischer	237
" Image of Two Close Luminous Lines of Finite Width. B. E. Mourashkinsky	2254
" Image of Two Close Luminous Planes. B. E. Mourashkinsky	475
" Images, X-ray, of Slits. B. Walter	2787
" Interference, Peculiar. E. Maey	1147
" " K. Noack	1146
Dispersion and Scattering of Light by Molecules. L. V. King	246
" Investigated by Interference Method. H. F. Dawes	67
Focal Length of Microscope Objectives and Number of Fringes seen in Convergent Polarised Light, Relation between. F. I. G. Rawlins	251
Fraunhofer Diffraction Phenomena. J. Barnes	2739
" Quantum Theory of. P. S. Epstein and P. Ehrenfest	1812
γ-Rays, Absorption and Scattering of. N. Ahmad and E. C. Stoner	2532
Grating Errors and "Ghosts." R. W. Wood	2726
Interference Bands due to Mica in Infra-red Spectroscopy. C. F. Meyer and D. W. Bronk	2083
" by Diffusion. F. Wolfers	2736
" Figures by Transparent Crystalline Plates. F. E. Wright	472
" Phenomenon, New. F. Wolfers	2053
Interferometer Fringes, Effect of Retarding Plate on. N. K. Sethi	1436
" Universal. A. E. H. Tutton	476
Interferometry, White-Light, Effective Wave-length in. F. Allison	2032
Jamin Interference Arrangement. E. Bratke and E. Waetzmann	473
Kirchhoff's Theory of Diffraction. A. Rubinowicz	1145
Light-Scattering in Turbid Media. A. Carrelli	2057
Molecular Roughness of a Mercury Surface. R. Gans	2028
Optical Refraction in Gases in the Spectral Region between 5782-2442 Å.U. B. Quader	2033
Quanta, Light, Diffraction and Interference. L. de Broglie	257
Quantum Optics. G. Wentzel	1435
Scattering of Light by Carbon Dioxide, Nitrous Oxide and Some Organic Vapours. A. L. Narayan	818
" of Light by Liquids: Polarisation and Intensity. W. H. Martin	1780
" " by Smoky Quartz. N. K. Sur	2243
" " in Carbon Dioxide. C. V. Raman and K. R. Ramanathan	247
" " in Fluids, Electromagnetic Theory of. K. R. Ramanathan	2488
" " in Gases and Liquids. A. S. Ganesan	1412
" " Molecular, in Mixtures of Carbon Disulphide and Acetone. J. C. K. Rav	252
Transparent Plates, Passage of Light through. A. Schuster	2949
Tyndall Phenomenon in Liquids. R. Gans	1413
Ionisation and Dissociation of Gases.	
Air, Mobilities of Electrons in. L. B. Loeb	949
" Negative Ions in. V. A. Bailey	930

For the Explanation of this Index see p. 1154.

	Abstract Nos.
Ionisation and Dissociation of Gases, continued.	
Air, Negative Ions in, and Motions of Electrons in Gases. L. B. Loeb	929
Atmospheric Ionisation. A. Gockel	1252
Atomic Oxygen, Resonance and Ionising Potentials of. J. J. Hopfield	1461
Chlorine and Hydrogen, Dissociation of, into their Atoms. K. Wohl	1599
Excitation and Ionisation Potentials of Gases. F. Horton	935
Function, Luminous Impact and Illumination during Recombination. R. Seeliger	1445
Flames containing Salt Vapours for H.F. Currents, Properties of. A. B. Bryan	1867
for Alternating Currents, Conductivity of. H. A. Wilson and A. B. Bryan	1866
Electricity in. H. A. Wilson	1865
Gas Dissociation and Free Path. E. Schrödinger	1227
"Glim" Lamp as a Detector of Ionising Radiations. O. v. Baeyer and W. Kutzner	1275
Helium, Ionisation by Collision in. J. S. Townsend and T. L. R. Ayres	1539
Hydrogen, Atomic, Radiation Potentials of. P. S. Olmstead and K. T. Compton	1170
Critical Potentials of, in Presence of Nickel Catalyst. A. W. Ganger	1620
Ionic Mobilities, Effect of the Gauze in the Franck Modification of the Rutherford Alternating-Current Method for Measuring. L. B. Loeb	925
Ionisation and Activation of Gases. K. T. Compton	1873
and Resonance Phenomena. C. B. Bazzoni	839
by β -particles. R. H. Fowler	1237
by Electrons with Speeds comparable with that of Light, Absence of. W. F. G. Swann	1251
Currents, Measurement of. R. Kegerreis	1536
of Gases (Helium, Neon, Argon, Hydrogen, Nitrogen, Methane) and Electron Impacts. A. L. Hughes and E. Klein	1456
Potentials. F. A. Saunders	1162
Mechanism of, by Electronic Impacts. R. H. Fowler	1237
Ionising Potentials of Helium and Some Multi-Atomic Gases (HCl, HBr, HI, H_2O , NH_3 , H_2 , N_2 , O_2). C. A. Mackay	934
Power of Electrons. L. L. Nettleton	1872
Ions from Hot Salts. O. Gossmann	1535
"Magnetic Lines," Faraday's, as Quanta, Part II. H. S. Allen	2962
Nitric Oxide, Gaseous Ions in Oxidation of. A. K. Brewer and F. Daniels	1874
Nitrogen and Nitric Oxide, Impact Effects in. C. B. Bazzoni and A. T. Waldie	1540
Quinine Sulphate, Ionisation. F. Harms	933
Recombination of Gaseous Ions. J. J. Thomson	1312
Salt Vapours, Ionisation of. V. Kondratjeff and N. Semenov	1541
W. M. Latimer	1264
Thermodynamics of the Ionisation of Monatomic Gases. R. Becker	911
Lenses and Optical Systems.	
Aberration, Longitudinal, in Aspherical Optical Systems. I. Roman	471
Spherical, Diffraction Effects in. J. Fischer	237
Aberrations by Means of the Hilger Interferometer. J. W. Perry	2246
of Microscope Objective, Measurement of. F. Twyman	250
of Optical Systems. L. Lenouvel	2737
Aperture, Axial Thickness and Form for a Single Lens, Relation between. T. Smith	2483
Astographic Objectives, Study of, by Extrafocal Images. G. Demetrescu	1431
Astrolabe, Moving-Wire. V. Michkovitch and E. Mallein	2403
Prism, Auto-registering Optical Micrometer for. R. Baillaud	2041
Astronomical Lenses at Victoria. J. S. Plaskett	1428
Calculation, Practical, of Lenses. P. Martinez	816
Crystal Sections by Conoscopic Methods, Examination of. C. W. Hawksley	2058
"Diametral Plane" in Elementary Geometrical Optics, Use of. C. H. Lees	2485
Diffraction, see section Interference.	
Dispersion, see separate section.	
Field, Investigation of, in a Hand Telescope. A. Wetthauer	2048
Focal Length of Microscope Objectives and Number of Fringes seen in Con- vergent Polarised Light, Relation between. F. I. G. Rawlins	251
Grating Fringes. V. Ronchi	2253
Hertz Gratings. C. Schaefer	2139

For the Explanation of this Index see p. 1164.

- Lenses and Optical Systems, continued.**
- Hyperbolic Relation in Geometrical Optics. S. Bodócs 2055
- Image Curves Formed by an Object Glass. E. W. Taylor 466
- " of a Diffraction Grating by a Microscope Objective. A. Driesen 465
- Interference Method, Waetzmann, of Investigating Optical Systems. E. Bratke 2249
- Lens Faults for Oblique Pencils. Eva Haberland 2484
- " for Whole-Sky Photographs. R. Hill 2729
- " Thin Double. T. Smith 1131
- Lenses of Large Aperture for Stellar Spectrographs. G. W. Moffitt 1423
- " Thin, Magnification Surfaces of. T. Smith 1138
- Lummer Plate, Use of. G. Hansen 2250
- Machine Calculation of Rays through a Lens System. C. W. Woodworth 248
- Measurements, *see* separate section.
- Meridional and Sagittal Formule. E. D. Roe 1767
- Microscope, Binocular, Inter-Ocular Distance in. H. Siedentopf 1135
- " Corneal. E. F. Fincham 2247
- Microscopes, Focussing Type of Dark Ground Illuminator for. C. Beck 1136
- Mirrors, Focal Changes in. E. Pettit 1130
- Nodal Slide Modification. T. Smith 1774
- Object-Glass, Telescopic Triple, of High Relative Aperture. J. W. Gifford 1134
- Objective at Strasburg Observatory. A. Darjon 2728
- " Clairaut-Mossotti. H. Crétien 1137
- " Photographic, with reduced Stereoscopic Effect. J. Thoveri 1770
- " Thin Aplanatic, Calculation of. S. Nakamura 2950
- Objectives, Photographic, Theory of Class of. E. T. Hanson 1132
- Oblique Focal Distance, Formule for. (Misa) A. Everett 2044
- Optical Surfaces, Cinematic Study of Working of. C. Dévé 2738
- Performance of Optical Systems, Method of Studying. V. Ronchi 817
- Photographic Objective in England and America between 1800 and 1875. M. v. Rohr 2742
- Photography, *see* separate section.
- Polarisation, *see* separate section.
- Position of Object and Image in a Simple Lens. B. Schwarz 70
- Primary Aberrations, Reference System for. T. Smith 2245
- Prism Objectives. H. Cranz 2252
- " System for Small Broken Telescopes. G. W. Moffitt 1424
- " Right-angled, Testing of. J. W. Nicholson and F. J. Cheshire 1141
- Prisms, *see also* sections Dispersion, Refraction and Absorption (Light).
- " Total Reflection. H. Cranz 1143
- Reflection, *see* separate section.
- Refraction, *see* separate section.
- Scattering of Light. A. Carrelli 2487
- Studying Surfaces and Optical Systems, Method of. V. Ronchi 463
- Telescope, Growth of. W. J. S. Lockyer 1129
- " New 60-in. for Perkins Observatory 1100
- Telescopes, Achromatism in. J. W. Gifford 2248
- Telescopic Adjustments enabling Variable Magnification. L. Dunoyer 2727
- Transparent Plates, Passage of Light through. A. Schuster 2940
- Unit Curves of a Photographic Lens. Alice Everett 71
- " Magnification Surfaces of a Glass Ball. Alice Everett 249
- Waetzmann Method for Investigating Optical Systems. E. Bratke 1144
- Magnetism.**
- Ageing, Magnetic, of Iron and Steel. T. E. Green 991
- Alternating Flux in an Iron Core with Superposed Direct-Current Magnetisation. H. Schunck 506a
- " Magnetism. W. M. Mordey 331
- Apparatus and Instruments, *see also* separate section.
- Atomic Magnetic Moments. W. Gerlach and A. C. Cilliers 2603
- " Moment of Oxygen. P. Weiss 148
- Cobalt-Chromium, Magnetic Quantities of. T. F. Wall 1299
- Coils, Magnetic Field of Different Forms of. A. Salb 679a
- Compass, Historical Notes on. E. Wiedemann 2351
- Cylinders, Soft-Steel, in Strong Magnetic Fields. P. Dejean 2159
- Deformations of Liquid Streams carrying Powerful Currents. L. Lombardi 152
- Demagnetising Factors of Cylindrical Rods. J. Wüschmidt 666
- For the Explanation of this Index *see* p. 1184.

<i>Magnetism, continued.</i>	
Dielectric and Conducting Spheres, Natural Electric and Magnetic Oscillation of. C. Schaefer and K. Wilmsen	2576
Electric Fields due to Motion of Tubes of Magnetic Induction. L. Kneissler	2598
Electromagnet, New. H. Boas and T. Pederzani	998
Electromagnetic Theory, <i>see separate section.</i>	
von Ettingshausen Effect. E. Persico	1296
Ferromagnetic Constants for Weak Alternating Fields. H. Jordan	2840
Ferromagnetism. L. W. McKeehan	2601
Gadolinium Sulphate at Very Low Temperatures, Magnetisation of. H. R. Woltjer and H. K. Onnes	998
Sulphate, Magnetisation at Very Low Temperatures and Susceptibility of. H. R. Woltjer	997
Gyro-magnetic Ratio, Null Method of Measuring. W. Sucksmith and L. F. Bates	333
Hall Effect, <i>see section Conductivity (Electric)</i>	
Helium and Argon, Gases, Diamagnetism of. G. Joos	987
High-Frequency Rotating Magnetic Fields, Iron in. L. Tonks	1933
Hysteresis Loss in Asymmetrical Cycles. M. Paris	2349
"Magnetic. Brylinski	993
" at High Frequencies. W. Kaufmann	992
" Control Field in. R. C. Gray	1930
Iron and Nickel at the Critical Temperature, Energy Change in. J. R. Ashworth	2158
in Ferricyanide of Potassium, Paramagnetism of. Paule Collet	1584
Losses and Maximum Induction. Jouaust and Miss Bourgoignon	150
" Molecules, Electric Dissymmetry of. A. Perrier and A. J. Staring	662
Magnetic Analysis, Elements of. E. H. Crapper	2597
" and Electrical Properties of the Ternary Alloys, Fe-Si-C. T. D. Yensen	2596
Circuit containing Imperfectly Polarisable Material, Potential Energy in. L. Lombardi	2346
" Circuit of a Magneto, Energy in. N. W. McLachlan	151
Fields, Graphical Determination of. T. Lehmann	125
" Strong, Method of Producing. P. L. Kapitza	2595
Instruments and Methods of Absolute Magnetic Measurements, Comparisons of	1000
" Lines, Faraday's, as Quanta. Part II. H. S. Allen	2962
Measurements on Materials of High Initial Permeability. P. P. Clouff	2839
Moments of Rotation and Magnetic Molecular Orientation. R. Lucas	661
Pull, Law of. T. Lehmann	2350
Rotation, <i>see section Polarisation.</i>	
Saturation of Iron-Coil, giving Intense Magnetic Fields. R. Fortrat and P. Dejean	668
Screen of Spirally Wound Iron Sheets. C. Benedicks	147
Testing of Small Specimens. T. F. Wall	1299
Viscosity. C. Lapp	1294
Waves in Iron Rods and Rings. A. Karlsson	1298
Magnetite, Conductivity of, and Effect of Magnetisation. E. Wilson and E. F. Herron	1562
Magneton, Theory of. A. Sommerfeld	995
" Values of. P. Weiss	2436
Magnetostriction and Magnetoelectric Effects in Iron, Nickel, and Cobalt. P. McCorkle	660
" Effect of Crystal Structure on. C. W. Heaps	663
Measurements, <i>see separate section.</i>	
Nickel at Curie Point. L. Trier	146
" Chromium Alloys, Magnetic Properties of. J. Safranek	1295
" Magnetic Isotherms of. P. Weiss and R. Forrer	1931
" Permeability and Hysteresis of. H. Pêcheux	149
Paramagnetism at Low Temperatures. L. C. Jackson	665
" Independent of Temperature. P. Weiss and Paule Collet	2600
Permanent Magnets, Magnetic Circuit of. G. H. Perrin	996
Permanite, Magnetic Quantities of. T. F. Wall	1299
Permeameter Circuit, Oscillographic Study of Current and Voltage in. W. B. Kouwenhoven and T. L. Berry	986
" Furnace, for Alternating Current Measurements at Small Magnetising Forces. G. A. Kelsall	2348
For the Explanation of this Index <i>see p. 1164.</i>	

	Abstract Nos.
Magnetism, continued.	
Photomagnetic Effect. N. v. Raschevsky	990
Potential of Hydrogen Occluded in Iron, Effect of a Magnetic Field on. T. W. Richards and W. T. Richards	1320
Prolate Iron Spheroid Rotating in a Magnetic Field, Charging Effect of. E. Lawrence	2160
Quantum Theory applied to the Magnetic Field. W. Gerlach and O. Stern	2662
Reluctivity of Permalloy. A. E. Kennelly	2157
Remanent Magnetism, Effect of Shape of Magnet on. A. Michel and L. Veyret	1293
Resonance Light, Influence of Magnetic Field on Polarisation of. G. Joos	2955
Specific Heat of Ferromagnetic Substances and the Critical Temperature. J. R. Ashworth	1297
Spectroscopy, Magnetic and Electric. W. Arkadiew	2760
Spontaneous Magnetisation of Nickel. P. Weiss and R. Forrer	2602
Steel, Influence of Carbon and Carbides on Magnetic Properties of. A. W. Smith, E. D. Campbell and W. L. Fink	1932
Sheet, Influence of Cold Rolling on Electrical Properties of	320
Silicon, Magnetic Properties of. G. H. Cole	994
Steels containing Manganese, Magnetisation of. H. Pécheux	332
Sulphates, Paramagnetic Double, at Low Temperatures, Susceptibility of. L. C. Jackson and H. K. Onnes	989
Surface Tension in a Magnetic Field. Winifred L. Rolton and R. S. Troop	1652
Tension, Effect of, on Change of Resistance and Thermoelectromotive Force by Transverse Magnetisation. A. W. Smith	321
Terrestrial Magnetism, <i>see</i> separate section.	
Thermomagnetic Phenomenon and the Specific Heat of Nickel. P. Weiss and R. Forrer	1934
Thermo-magnetism, <i>see</i> section Thermo-electricity.	
X-Ray Corpuscular Emission from Iron in a Magnetised and Unmagnetised State. G. A. Carse and D. Jack	2161
Measurements and Use of Instruments.	
Aberrations of Microscope Objective, Measurement of. F. Twyman	250
of Optical Systems. L. Lenouvel	2737
Adjustment of Levels. T. F. Connolly	2383
Air Speed in Aeroplanes, Measurement of. C. J. Stewart	386
Alloys, Thermal Conductivity of. H. M. Williams and V. W. Bihlman	2535
Alternating Current in Massive Iron Conductors. K. Zickler	2341
Tensions, Weak, in Grid Circuits; Use of Audion for Absolute Measurement of. Angelika Székely	330
Altitude of Aircraft, Determination of. W. G. Brombacher	197
Aluminium at High Temperatures, Tensile Properties of. T. Martin	2416
Amplification of the Current of Photoelectric Cells. G. Ferris, R. Jouaust and R. Mesny	654
Low-frequency, Measurement of. R. L. Smith-Rose	1578
Arc Relay, Electro-optical Applications of. L. Dunoyer and P. Toulon	3055
Relays with Exterior Sheath, Electro-mechanic Applications of. L. Dunoyer and P. Toulon	3054
Atmosphere, Simple Arrangement for Observation of Optical Trouble of. G. Gallissot	2934
Ballistic Galvanometers. M. Masius	2148
Barometer, Mercury, Effect of Rolling of Ship on. M. A. Giblett	199
Braun Tube Diagrams, Determining Sense of Rotation of. K. Seiyama	1923
Breakdown Voltages for Air. F. Dessauer	5046
Butyro and Immersion Refractometers. J. W. Perry and C. C. Roberts	1125
Capacities and Resistances, Neon Lamp for Comparison of. J. Taylor and W. Clarkson	1579
Measuring Small. H. Hermann	1577
Small, Method of Measuring. L. Hartshorn	3025
Capacity and Inductance, Calculation of. E. J. Hobbs	7676
and the Angle of Dielectric Loss in Condensers and Cables; Simple Compensation Method for Measuring. W. Geyger	329
Measurement of Very Small Changes of. R. Gunn	2594
of, Compensation Method for. W. Geyger	649
Capillary Tubes, Accurate Calibration of. K. J. Isaac and I. Masson	1338
Ceramic Materials, Thermal Dilatation of, by the Interferometer. G. E. Merritt	2537
For the Explanation of this Index <i>see</i> p. 1164.	

Measurements and Use of Instruments, continued.	
Charcoal, Density of, by Displacement of Liquids. J. B. Firth	371
Chronograph Projectile, Falling, Motion of. L. Thompson	399
Chronometers. H. Bock	1350
Coherer to Investigate Adsorption Films, Use of. W. G. Palmer	2850
Compressibility of Solids by an Interferometer Method. H. C. Bates	1654
Condenser Microphone to Depict Sounds. F. Trendelenburg	2559
Condensers, Variable Air, Calibration of. F. Bedeau	1311
Critical Voltages, Measurement of. Lydia Inge and A. Walther	2321
Currents, Very Small, Measuring. Research Staff of General Electric Co., London	648
Daylight Factor, Measurement of. A. K. Taylor	1773
Decrement Determinations for Highly Damped Circuits. O. Meisser	980
Depth-Sounding for Navigational Purposes, Acoustic Method of. C. H. Lees	1660
"Diametral Plane" in Elementary Geometrical Optics, Use of. C. H. Lees	2485
Dielectric Constant. R. Fürth	1571
Losses at High Voltages, Measurement of. A. Rosen	650
Diffusion and Density of Gases measured by Interferometry. C. Barus	1650
Rate of Metals in Mercury, Influence of Pressure on. E. Cohen and H. R. Bruins	2183
Rate of Metals in Mercury, Potentiometric Determination of. E. Cohen and H. R. Bruins	2182
Drops in an "Atomised" Liquid, Measurement of. F. Häusser and G. M. Strobil	1988
Earth's Field, Determining Intensity of, from a Moving Support. H. Gollin	1924
Elastic Stresses in an Isotropic Body. R. F. Gwyther	2419
Electric Oscillation Measurements, Single-Spark Method for. O. Meisser	979
Electrical Steel Testing. B. Kjerrman	2366
Electrolytic Inductance Measurements, Conductance of Potassium Chloride Solutions. H. C. Parker and Elizabeth W. Parker	1581
Electrometer in High-frequency Measurements, Use of. V. Ylöstalo	975
with Triode Valve and Atmospheric Gradient. P. Lejay	1821
Electrometers of Braun and Haga, Initial Deflection by. H. Hermann	974
Electron Tubes, Capacities of. E. Schrader	3059
Electroscope, Volta/Condenser, Theory of the Reinforcement and Bonding Number. H. Hermann	973
Eötvös Balance. W. Schweydar	739
Equi-altitude Measurement by Photography. R. Baillaud	1769
Field, Investigation of, in a Hand Telescope. A. Wethauer	2048
Focal Length of Optical Systems, Interference Method for. E. Bratke	1133
Galvanometer, Vibration, Anomalous Behaviour of. E. V. Appleton	1287
Hardness, Measurement of. Plaut	730
Heat, Measurement of Small Sources of, by Micro-Calorimeter. A. Tian	1607
production by Thermopile and Galvanometer, Measurement of Small Rates of. W. Hartree	2541
Height, True, Measurement of, by Aneroid. L. N. G. Filon	395
High-frequency Resistances of Wires. G. Wuckel	1285
Temperatures, Determination of. F. Henning	2285
Hilger Interferometer, Aberrations by Means of. J. W. Perry	2246
Hydrogen-Ion Concentration by a Spectro-Photometric Method. W. R. Broder	1617
Measurements of. W. T. Bovi	1618
Impact of a Pair of Bars of Steel and of Copper, Duration of. E. W. Tschudi	2417
Impedance Theorem, Campbell's Driving-point. R. M. Foster	2343
Inductance and Capacity, Calculation of. E. J. Hobbs	767
Induction Coil for Determination of Conductivity. F. Schernitzky	2145
Infra-red Absorption Measurements, Quantitative, and Molecular Structure. J. Lecomte	2756
Radiation, Instruments for Detecting. D. S. Perfect	2903
Insulation Resistance, Measurement of High Values of. J. B. Whitehead	661
Intensity Measurements of Spectral Lines. J. K. Robertson	888
Relation of Multiple Lines, Measurement of. W. Gerlach and O. Bregina	1456
Interference Method, Waetzmann, of Investigating Optical Systems. E. Bratke	2249
Internal Diameter, Measuring. J. S. Anderson and G. Barnhill	376

For the Explanation of this Index see p. 1154.

- Measurements and Use of Instruments, continued.**
- Internal Stress in Brass Tubing. R. J. Anderson and E. G. Fahlman 2420
- Ionisation Currents, Measurement of. R. Kegerreis 1336
- Kathode-Rays, Direct Measurement of Velocity of. F. Kirchner 2830
- Length Measurements, Precise. W. J. E. Sears, Jr. 366
- Levels, Mollenkopf, Spirit; Accuracy of. H. Löschnere 1349
- Magnetic Instruments, and Methods of Absolute Magnetic Measurements. 1000
- Comparisons of. 1000
- Measurements on Materials of High Initial Permeability. P. P. Gioffi 2839
- Testing of Small Specimens. T. F. Wall 1299
- Measurement of Magnetic Fields by a Magnetron. A. W. Hull 667
- Measurements, Students'. F. Palmer 410
- Mechanical Stirrer, Chemical Method for Testing Efficiency of. W. A. Roth 2400
- Metals, Valve Method of Detecting Slipping in. C. Handford 1995
- Metrology, Precision, Matters of Special Interest in. A. Pérard 1651
- Observations, Adjustment of. N. Campbell 1982
- Optical Lever Method for Measuring Thermal Expansion. J. Guild 2124
- Measurement, Accuracy in. A. A. Michelson 1432
- Oscillating-Valve Circuits for Measurement of Physical Quantities (Dielectric Constants, Magnetic Fields, etc.). J. E. P. Wagstaff 981
- Oscillations of Single-Layer Coils, Measurements of. W. Hofmeier 1558
- Electromagnetic, of High Frequency, Registration of. A. Dufour 1929
- Oscillograph, Kathode-Ray, applied to Explosion Pressures, etc. D. A. Keys 1633
- Overvoltage, Measurement of. S. Glasstone 3002
- Oxides, Metals, and Carbides at High Temperatures. O. Ruff 3002
- Paints, respecting Heat Radiation from Surfaces. W. W. Coblenz 2638
- Peak Voltage Measurement by Neon Glow-Lamp. L. E. Ryall 1925
- Volts, Measurement of. R. D. Mershon 977
- Penetrating Radiations, Experimental Fundamentals for Measurement of. W. Kolhörster 2963
- Permeameter, Furnace, for Alternating-Current Measurements at Small Magnifying Forces. G. A. Kelsall 2948
- Photographic Densities, Measurement of. G. B. Bazzoni, R. W. Duncan, and W. S. Mathews 454
- Film, Mensurational Characteristics of. F. E. Row 1336
- Plates, Exposed; Diffusing Power of. J. Eggert and G. Archers 2490
- Plates, Some Properties of. C. Fabry and H. Buisson 2489
- Photometer, Selenium, Demonstration of. F. C. Toy 2952
- Physical Measurement, Limits of Accuracy in. W. Block 2877
- Piezoelectric Method for High Pressures. J. C. Karcher 1890
- Polarisation Capacity and Phase Angle, Direct Measurement of. C. W. Miller 1966
- Potential Differences, Small Alternating, Measurement of, with an Electro-meter. C. Gutton and G. Laville 3056
- Potentials, Electrode, in Non-Aqueous Solutions. E. Barr 2634
- Inaccessible, with Controlled Oxygen-Electrode, Measurement of. A. K. Goard and E. K. Rideal 2638
- Power, Apparent, and Power Factor in Polyphase Circuits. H. Schering 2339
- Precipitation Measurements. F. Lindholm 2685
- Pressure Gauge of the Amagat Type, Accuracy of. A. Michels 1561
- Piston Motion of. L. Holborn 2685
- Measurements, Absolute, Rotation and Sensitiveness of. A. Michels 2685
- Pressures, High, Measurement of. B. H. Newman 277
- Prism Objectives. H. Czaps 2252
- Prisms, Right-angled, Testing of. J. W. Nicholson and F. J. Cheshire 1141
- Pt-Rhodamine B-Pt Cell. K. F. Sun 2147
- Quantities, Small, of Electricity, Electrometric Measurement of. G. Hoffmann 1289
- Radio-Active Substance, Measuring Radiation from. (Mise) S. Maracineanu 654
- Radium Balance. L. H. Clark 1199
- Content of Feebly Active Substances by the γ -Ray Method. P. Ludwig 209
- Refractive Index of Large Discs of Glass, Measurement of. J. Barot 1757
- of Liquids by Means of a Microscope. C. Kiplinger 2030
- For the Explanation of this Index see p. 1142

not located

Abstract Nos.

- Measurements and Use of Instruments, continued**
- Refractive Indices, Determining, and Refractive Index of Gums. A. Mallock 1119
- Refractometers, Range of Measurements with. G. Haenzel 1756
- Refractories, Thermal Conductivity of. M. D. Hersey and E. W. Butzler 2536
- Relativity and Measurement of a Moving Rod by a Fixed Observer. A. Lampa 2926
- Resistance Variations for Conductors not obeying Ohm's Law, Measurement of. H. Greinacher 1876
- Resistance, Measurement of, by Wheatstone Bridge. F. Wenner and Alva Smith 1918
- Secondary Wave-length Standards. P. Wallerath 2957
- Single-layer Coils, Alternating-Current Resistance of. S. Butterworth 2342
- Snowfall Measurement. A. Røstad 2689
- Solar Radiation Measurements in Various Spectral Regions, Technique of. C. Dorno, K. W. Meissner, W. Vahl 2961
- Sound Intensity, Measurement of. J. C. Karcher 295
- Measurements in Arc Lights with High-frequency Currents. A. Hagenbach and M. Wehrli 2575
- Physiological Measurement of. A. Stefanini 1242
- Specific Gravity of Gases, Apparatus for Measurement of. A. Blackie 369
- Heats of Magnesium, Calcium, Zinc, Aluminium and Silver at High Temperatures. E. D. Eastman, A. M. Williams and T. F. Young 2126
- Inductive Capacities of Ceramic Materials. A. Burmester 2338
- Spectroscopic Illumination with End-on Vacuum Tubes. T. R. Merton and R. C. Johnson 262
- Stellar Energy Spectra, Radiometer, Measurements of. C. G. Abbot 2944
- Stress Distribution, Optical Investigation of. W. Birnbaum 2418
- Measurement, Optical, Elasticity of Celluloid with Reference to. H. E. L. Martin 1051
- Surface Resistance of Insulating Sheets, Measurements of. R. Dieterle 1284
- Tension by Capillary Balance, Measurements of. P. Lenard, with R. v. Dallwitz-Wegner and E. Zachmann 2413
- Tension from Bubbles, Determination of. S. Sugden 1339
- Technical Materials, Conductivity for. O. Tesche 2286
- Telescopes, Achromatism in. J. W. Gifford 2248
- Temperature Measurement with the Einthoven Galvanometer. F. Adcock and E. H. Wells 564
- Measurements by Thermoelectric Junctions. J. Wirschnid 2800
- Very High, Measurement of. I. O. Griffith 563
- Testing Machines, Calibrating Single-lever. C. Jakeman 1352
- the Density of a Neutral Wedge. J. S. Foster 1429
- Thermal Conductivity, Bar Method for Measurement of. M. D. O'Day 1837
- Thermocouples, Contamination of. O. A. Hoagen and B. L. Miller 325
- Thickness of Elastic Plates, Measuring. C. Cheneveau and J. Callame 724
- Thread Recorder, Uses of. J. L. Houghton and W. T. Griffiths 1922
- Time Intervals, Accurate Measurement of. H. L. Curtis and R. C. Duncan 179
- Modification of. G. Bigourdan 2216
- Transmission of Light in Instruments, Measurement of. G. W. Moffitt and P. B. Taylor 2051
- Ultramicrometer used as a Differential Micromanometer. R. Whiddington 368
- and A. Hare 1653
- Vacua, High, Measurement of. H. Stintzing 396
- Velocity of a Current of Air, Measuring. Huguenard 187
- Viscometers of Saybolt Type, Bath Temperatures of. W. H. Herschel 1342
- Capillary Tube. G. Barr 2043
- Visibility, Measurement of. A. Wigand and K. Genthe 1590
- Voltage, Peak, with Glow Tube, Measurement of. A. Palm 126
- Watch Rate, Determination of. A. Jaquered 976
- Wattmeter, Dynamometer. B. Hagae 1926
- Wave-form by Means of the Braun Tube. L. Casper, K. Hubmann and J. Zenneck 653
- Lengths (Short), Measurement of, and Frequency Standardisation. F. W. Dunmore and F. H. Engel 646
- Wavemeters, Precision Calibration of. G. W. Pierce 3879
- Weights and Measures
- X-Rays, see also separate section

For the Explanation of this Index see p. 1154.

- Metallography and Properties of Metals.** *see also separate section.*
- Alloys, *see also separate section.*
- Aluminium, Annealing of. H. Röhrig 2815
- Boron in Cast Copper, Use of. Weintraub 2364
- Cadmium, Crystal Growth in. M. Cook 358
- Carbon-Steel, Physical Properties of. W. M. Howe, F. B. Foley and J. Winlock 2622
- Case Hardening, Prevention of, by Copper Plating. J. C. McCullough and O. M. Reiff 2876
- Coefficients of Expansion of Metals and Alloys. J. N. Friend and R. H. Vallance 2534
- Cold Rolling on Sheet Steel, X-ray Investigation of Effect of. Y. Niwa and J. Matūra 162
- Copper Wire, Experiments on. D. H. Ingall 1374
- commercially Pure, Relation between Tensile Strength and Electrical Resistivity of. W. E. Alkins 3047
- Crystals, Single Metallic, Production and Properties of. H. C. H. Carpenter 355
- Cupro-Nickel, 80:20, Source and Influence of Impurities in. C. Blazey 359
- Density, Rate of Cooling, and Composition of Metals and Alloys. R. C. Reader 1610
- Electrical Steel Testing. B. Kjerrman 2366
- Theory of Solid Bodies. J. Frenkel 2434
- Electron Theory of Solids and Rigidity of Metals. D. Banerji 2432
- Fatigue of Metals. H. F. Moore and T. M. Jasper 2362
- Nature of; Fatigue Failure of Brass Tubes. W. E. W. Millington and F. C. Thompson 1278
- Hardening of Metals. S. Kimura 163
- Hardness. C. A. Edwards and C. R. Austin 347
- of Copper Alloys, Effect of Temperature on. L. Guillet 2181
- Hydrogen Overvoltage of Metals and their Characteristic Properties. E. J. Weeks 3085
- Internal Stress in Brass Tubing. R. J. Anderson and E. G. Fahlman 2420
- Iron and other refractory Metals in the Liquid State, Density of. C. Benedicks 2878
- and Steel, Specific and Latent Heats of. A. Mallock 2125
- Cementing of Small Pieces of. D. Uno 2816
- Change of Density of, due to Overstrain. J. W. Landon 348
- Electrolytically deposited, Effect of Heat Treatment on Hardness and Microstructure of. N. B. Pilling 1029
- Technical, Constitution of. F. Wever 3084
- Thermoelectric Force of. G. Borelius 2593
- Lead, Hardness and Spontaneous Annealing of. A. L. Norbury 349
- Magnesium. 3088
- from 20° C. to 700° C., Density of. J. D. Edwards and Co. Samed 1
- Taylor 2880
- Metal Crystals. E. Grüneisen and E. Gooss 2659
- Films, X-ray Examination of. W. H. Bragg 1959
- Rolling, Atomistic Mechanism of. U. Kakinuma 2618
- Metallic Filaments, Method of Drawing. O. F. Taylor 1989
- Metallography in Polarised Light. L. C. Glaser 2365
- Metals and Alloys on Bohr's Theory, Electrical Conductivity of. K. Hajendahl 2835
- Electric Conductivity of. F. Simon 2834
- Rare Elements, Application of Spectrographic Analysis to Examination of. C. Porlezza and A. Donati 2509
- Stability under Shearing Forces of Flat Elastic Strip. R. V. Southwell and Sylvia W. Skan 2000
- Stainless Steel and Iron, Resistance to Corrosion of. J. H. G. Monypenny 351
- Steel, Cold-Worked, Potential Energy of. T. E. Russell 353
- Structure, *see also sections Crystals and X-rays.*
- Synthetic Metallic Bodies. F. Sauerwald and E. Jaenichen 2179
- Tempering Soft Steels at very High Temperatures. Sauvageot and H. Delmas 1030
- Tin-bronze, Low, Effect of Cold-drawing and Annealing on. S. H. J. Wilson 2604
- Lattice Structure and Sliding Planes of. H. Mark and M. Polányi 356
- Treated Metals, Crystal Structure of. L. Thomas 751
- Tungsten Wires, Effect of Drawing on Crystal Structure of. L. P. Sieg 357
- X-ray Crystal Analysis in Metallurgy. E. C. Bain 2625
- Zinc Crystals, Changes by the Extension of. E. N. da C. Andrade 1958

For the Explanation of this Index *see p. 1154*

Meteorology.

Air Density over the Globe, Distribution of. S. N. Sen.....	1095
Earth Currents and Others. F. Sanford.....	1253
Temperature by Shooting Spheres Upward. L. F. Richardson.....	1092
Ascensional Rate of Pilot Balloons. W. C. Haines.....	2684
Atmosphere up to 200 Kilometres, Characteristics of. G. M. B. Dobson.....	42
Constitution of Upper Strata of. L. Vegard.....	40
Mass of. J. Mascart.....	1705
Numbers of Ions in. S. Wiedenhoff.....	2311
Optical Soundings of. (Miss) E. Bellemin.....	772
Semidiurnal Oscillation of. S. Chapman.....	2683
Simple Arrangement of Optical Trouble of. C. Gallissot.....	2934
Transparency of. J. Cabannes.....	2681
Upper. J. Satterly.....	443
Relation of Circulation in, to a Circumpolar Vortex.....	
A. W. Lee.....	1093
Atmospheric Absorption at Pic du Midi. J. Baillaud.....	2015
Circulation. F. M. Exner.....	39
Eddies. F. M. Exner.....	2208
Electricity Data. H. Markgraf.....	2312
(see Terrestrial Magnetism and Electricity).....	
Electrodynamics. F. Kaftan.....	1704
F. Schindelhauer.....	2211
Ionisation. A. Gockel.....	1252
Permeability for Light, etc. A. Gockel.....	41
Polarisation. N. N. Kalitin.....	2017
J. J. Tichanovsky.....	2212
Pollution.....	2016
Automatic Measurement of. J. S. Owens.....	2933
Pressure, at Eskdalemuir and Castle O'er, Dumfriesshire. C. Chree.....	2682
A. C.....	
Mitchell.....	2018
Radiation. A. Boutaric.....	1706
Tide, Lunar, at Mauritius and Tiflis. S. Chapman.....	1710
Transparency and Weather States. W. Milch.....	2210
Turbidity. A. Defant.....	225
Atmospherics and Meteorological Conditions. R. Bureau and A. Viaut.....	3030
Phenomena, Relations between. R. Bureau.....	3029
and Meteorology. R. Bureau.....	721a
Aurora, Audibility of. C. A. Chant.....	444
Aurora, Sunspots, and Magnetic Variations during 1921. W. E. W. Jackson.....	778
Auroral Spectrum, Investigations on. L. Vegard.....	2093
Balloons, Rubber, Ascent of. Y. Horiguti.....	38
Blue Hill Meteorological Observatory, Observations at.....	437
of. A. McAdie.....	2690
Climatological Data of the West Indies.....	2447
Cloud and Rain, Forecasting. L. Petitjean.....	2020
Forms. Weather Bureau Cloud Committee.....	2687
Clouds, Colour of. P. Villard.....	442
Crepuscular Phenomena of Mont Blanc. E. Bauer, A. Danjon and J. Langevin.....	2450
Cyclone Formation. F. M. Exner.....	1708
Cyclones. W. Milch.....	37
and Anticyclones, Mechanism of. T. Kobayasi.....	35
Cause of. H. Jeffreys.....	1091
Dynamics of. D. Brunt.....	1090
Fall of Barometer during. F. E. Fournier.....	1089
Origin of. H. Ficker.....	36
Upper. A. Defant.....	1707
Development of Meteorology and Mathematics in the Progress of Science.....	
E. W. Woolard.....	1087
Dust Content of the Atmosphere, Investigation of. H. H. Kimball and T. F. Hand.....	2448
Earthquake Surface Waves. B. Gutenberg.....	781
Eclipse of the Sun, Measurements of the Receiving Intensity, of Atmospheric Ionisation Due to. B. Ihlin.....	447

For the Explanation of this Index see p. 1154.

<i>Meteorology, continued.</i>		Abstract Nos
Frequency Curves, Krichewsky's Method of Fitting. E. W. Woolard	1702	
Geneva and the Great St. Bernard, 1923, Observations at. R. Gautier	1700	
Glaisher Stand v. Stevenson Screen. I. D. Margary	2691	
Hertian Waves and the Atmosphere. J. Guinchant	2679	
Ionisation of the Atmosphere by Electrons. W. F. G. Swann	1251	
Melting Ice suspended in Benzene, Rotation of. H. B. Hachey	2686	
Meteorites and the Earth, Distribution of Iron in. L. H. Adams and H. S. Washington	2931	
Meteorological Normals, Computing. H. W. Clough	773	
Normal Atmospheric Electricity, Perturbations of. H. Markgraf	2214	
Normals of Meteorological Elements for the British Isles, Book of	2930	
Normals, Book of. Sections 4a and 4b	1701	
North Sea Tides. J. Proudman and A. T. Doodson	2692	
Northern Hemisphere, 11-Year Sunspot Period, and Temperature Variations in. B. Droste	2935	
Organic Bodies in the Air of Washington and London. N. Shaw	2451	
Periodicities, Difference-Penodogram for Determination of. C. E. P. Brooks	1371	
Peruvian Meteorology. S. I. Bailey	2688	
Polar-Front Theory. A. Defant	1086	
Precipitation Measurements. F. Lindholm	2014	
Pressure Ratios, Law of. F. J. W. Whipple	2685	
and Charting of Isobars. C. L. Meisinger	2019	
Radiation (Terrestrial). Henry	774	
Rain, Probability of. L. Besson	779	
Rainfall Amounts, Annual, Group Distribution and Periodicity of. R. E. Horton	2021	
Earthquake. K. Eischer	775	
Estimates, Areal, Accuracy of. R. E. Horton	2932	
Interpolation. R. E. Horton	438	
Duration, Intensity and Periodicity of. P. Gorbachev	440	
Limit-Gauge for. F. J. W. Whipple	439	
Recorders, Humidity. E. B. Wheeler	1088	
Resilience, Cross-Currents, and Convection. N. Shaw	2410	
Rio de Janeiro, 1920. Meteorological Observations at	1094	
Rising Air, Volume Change in. S. Róna	777	
Saint Maurice in 1922, Meteorological Observations at. R. Gautier and E. Rod	43	
"Sama" State. E. Gehrcke	776	
Sea-level and Tides, Perturbations of. A. T. Doodson	445	
Snowfall Measurement. A. Röstad	2024	
Solar and Terrestrial Radiation. A. Ångström	2689	
Constant, <i>see also</i> section Astronomy.	2023	
Radiation and Atmospheric Turbidity over the Atlantic Ocean and in Argentina. F. Linke	2449	
Radiation Corrections. R. E. Watson	44	
Intensity of, between Europe and the Equator. L. Gorczynski	446	
Ultra-Violet Intensity of. G. M. B. Dobson	45	
Variability of. R. Lundblad	1104	
Storms, Trajectories of. A. Baldit	441	
Surface Tension and Density, Relation between. A. Ferguson	729	
with very Small Volumes of Liquid. T. W. Richards, C. L. Speyers and E. K. Carver	1978	
Thunderstorms, Periodicity of. J. Gabriel	1709	
Upper-Air Observations, Significance of Regression Equations in Analysis of. F. J. W. Whipple	2680	
Vertical Vision, Measurement of. A. Wigand and K. Genthe	2213	
Visibility, Measurement of. A. Wigand and K. Genthe	2043	
Whirlwinds. W. Hartmann	2209	
Wind, Resistance of Spheres Shot Upward to Measure. L. F. Richardson	1703	
Miscellaneous (Chemical Physics and Electro-Chemistry).		
Absorption, <i>see</i> separate section.		
Activation and Chemical Combination. E. K. Rideal	1022	
Arsenic, Single Potential of. L. Kahlenberg and J. V. Steinele	2373	
Atomic Dimensions and Chemical Reactivity. H. L. Riley	2861	
For the Explanation of this Index <i>see</i> p. 1154.		

Miscellaneous (Chemical Physics and Electro-Chemistry), <i>continued.</i>	
Atomic Numbers of Allied Elements, Relationship between. J. C. Thompson	2921
Species and their Abundance on the Earth. F. W. Aston	1948
Weight, Kathode Fall and Ionisation Potential. A. Günther-Schulze	603
Weights, <i>see</i> section Molecular Physics.	
Boron in Cast Copper, Use of. Weintraub	2364
Brownian Movements, <i>see</i> section Molecular Physics.	
Carbon Compounds, Crystal Structure and Constitution of. I. E. Knaggs	2440
Catalysis, Contact, Report of Committee on. W. D. Bancroft	1006
Platinum, Action of X-rays upon. R. Schwarz and M. Klagenfuss	1007
Catalytic and Induced Oxidation. A. K. Goard and E. K. Rideal	1615, 1616
Charcoals and Other Properties, Hydrogen Content of. H. H. Lowry	1941
Chemical Affinity and Infra-red Spectra. A. Balandin	2746
Distance Effect of. T. W. Richards and W. T. Richards	674
Change with Variable Concentration, Calculation of Work of. C. Frenzel	2866
Constants of Chlorine, Bromine, and Iodine in the Mono- and Di-atomic States. K. Wohl	3091
Constants of Diatomic Gases. J. R. Partington	164
of Monatomic Gases. F. Simon	3092
Forces, Electrical Explanation of. M. Born	2863
Chemiluminescence. A. Petrikala	1597
Chromising. F. C. Kelley	1609
Chromium, Electro-chemical Behaviour of. N. Bouman	3095
Cobalt, Method of Producing a Thin Sheet of. F. K. Richtmyer and F. W. Warburton	1187
Colour Production, Theory of. J. Stieglitz	677
Combustion of Fuels, Temperatures Attainable in. G. A. Goodenough and G. T. Felbeck	1960
Conductivity, Electric, <i>see</i> section Conductivity and Resistivity.	
Corrosion, <i>see</i> section Solution.	
Crystalline Bodies, Cold Formation of. E. Siebel	681
Crystallisation, Eutectic, Kinematics of. A. Johnsen	688
Crystals, Surface Energy of, and their Form. M. Yamada	336
Deformability of Ions on the Optical and Chemical Constants, Effect of. M. Born and W. Heisenberg	2178
Detonation, Electrical Method for the Determination of Velocities of. J. E. P. Wagstaff	1359
Diamonds to Graphite, Conversion of. M. de K. Thompson, P. K. Frölich and J. L. Gillson	1309
Diffusion of Molecules and Ions into the Solution of another Substance and the Retarding Action of this Solution. I. D. Götz and G. P. Pamfi	2361
Diffusion, <i>see</i> separate section.	
Dissociation and Ionisation, <i>see</i> separate section.	
Double Layer, Electrical, Conception and Properties of, and its Relation to Ionic Migration. J. W. McBain	2870
Electric Furnace Processes, <i>see</i> separate section.	
Electrical Field, General Formulation of Movement in. Mary E. Laing	2871
Electrodes, Normal, <i>see</i> section Batteries, Primary.	
Electrolysis, <i>see</i> separate section.	
Electrolytic Analysis, <i>see</i> separate section.	
Electromotive Equilibrium and Polarisation. A. Smits	2635
Force of a Hydrogen Calomel Cell, Effect of Hydrogen Pressure on. W. R. Hainsworth, H. J. Rowley and D. A. MacInnes	2372
Electron Theory of Chemistry. J. J. Thomson	155
Electronic Orbits in the Alkali Metals. R. B. Lindsay	2433
Elements, Complexity of. A. S. Russell	2353, 2919
Elements, Groupings of, and Spectral Lines of Hydrogen. F. H. Loring	1009
Emulsification, Theory of. P. Finkle, H. D. Draper and J. H. Hildebrand	1598
Equation of State, <i>see</i> section Thermodynamics.	
Equilibrium, Chemical, <i>see</i> section Chemical Equilibrium.	
Exploded Wires in High Vacuum. S. Smith	1595
Explosion Wave, Propagation of. P. Laffitte	156
Explosions, Gaseous, at High Pressures. W. A. Bone, D. M. Newitt and D. T. A. Townend	1961
Explosive Limits of Mixtures of Gases. E. Asch	680
For the Explanation of this Index <i>see</i> p. 1154.	

Miscellaneous (Chemical Physics and Electro-Chemistry), continued.	
Explosive Reaction, Mechanism of. Audibert	2185
" Waves in Air, Propagation of. T. Vautier	2421
Fatigue of Metals. H. F. Moore and T. M. Jasper	2362
Films, Thin, Structure of. N. K. Adam	185
Free Energy and Heat Content of Arsenious Trioxide and the Reduction- Potential of Arsenic. R. Schumann	2370
Gas Mixtures, Separation of, by Diffusion. G. Hertz	676
Gases, for Gaseous Laws, <i>see</i> section Gases.	
Gelatin, Photographic Chemistry of. S. E. Sheppard, F. A. Elliott and S. S. Sweet	682
Gels and Theory of Adsorption. N. E. Gordon	1593
Glass Surfaces, Behaviour of Gases in Contact with. D. H. Bangham and F. P. Burt	1590
" to-Metal Joint. M. L. Dundon	2
" Optical, <i>see</i> section Lenses.	
Glasses, Electromotive Properties of. H. Schiller	2371
" Gases Evolved from. J. E. Harris and E. E. Schumacher	1305
Graphite, Crystalline Structure of. O. Hassel and H. Mark	2441
Helium from Exploded Wires. S. Smith	1595
" Nucleus, Structure of. Y. Takahashi	2439
" Spectrum-Tube, Changes in. A. F. Miller	520
Heterogeneous Equilibria, Studies in. J. A. V. Butler	2625, 2626, 2857
High Temperatures, Chemistry of. H. v. Wartenberg	3001
Hydration Process, Discontinuity of. W. A. Davis and J. V. Eyre	678
Hydrogen Overvoltage of Metals and their Characteristic Properties. E. J. Weeks	3085
Hydroquinone, Hydrogen-Ion Concentration and Oxidation of. V. K. la Mer and E. K. Rideal	1316
Indicators, Dissociation Constants of, Part I, Methods. W. C. Holmes	1962
Inflammability of Methane-Air Mixtures, Influence of Some Non-inflammable Vapours of Organic Liquids on Limits of. W. P. Jorissen and J. Velisek	3093
Internal Pressures of Solids and Liquids. T. W. Richards	2428
Iodide of Hydrogen by the Silent Discharge, Formation of. E. Warburg	1641
Ionisation, <i>see</i> section Dissociation.	
Isotopes and Constitution of the Elements by the Method of Accelerated Anode Rays. F. W. Aston	673
" of Mercury and Structure of the Green Line. R. Brunetti	2918
" Calculation of Atomic Weights of. A. S. Russell	679
" <i>see also</i> section Molecular Physics.	
Isotopy and the Isotopes. (Mme.) P. Curie	1304
Law of Definite Proportions. U. R. Evans	675
Lead Monoxide, Free Energy and Heat of Formation of. D. F. Smith and H. K. Woods	691
Liesegang Bands, Formation of. F. G. Tryhorn and S. C. Blacktin	683
Lithium; <i>p</i> and <i>d</i> Terms of. F. J. v. Wiśniewski	2438
Mass Action Law in Ionised Systems. W. Wessel	2872
" and Weight, Proportionality of. H. H. Potter	731
Mercury-dropping Kathode, Processes at. J. Heyrovský	2639
" into Gold, Reported Transmutation of	3083
Miscibility of Substances above the Critical Temperature. T. des Coudres	1218
" Specific Heat and Heat of Mixture in Neighbourhood of Critical State of. N. Petrakis	1219
Mobility of Ions in Liquids, Temperature Coefficient of. F. A. Lindemann	2607
Molecular Attraction and Combination. O. Maass	2858
" <i>see also</i> section Molecular Physics.	
Nernst Heat Theorem. W. H. van de S. Bakhuyzen	2640
Nitric Oxides and Ozone by Electric Discharges. K. B. McEachron	1972
Non-ionised Acids, Nature of, Correction. A. Hantzsch	2859
Oil Drops in Water, Cathoretic Mobilities of. M. Mooney	1969
Optical Activity and Rotation, <i>see</i> section Polarisation.	
" and Chemical Constants, Effect of Deformability of Ions on. W. Heisenberg	3089
" and Chemical Constants, Influence of Deformability of Ions on. H. Kornfeld	3090
Osmosis, <i>see</i> separate section.	

For the Explanation of this Index *see* p. 1154.

Miscellaneous (Chemical Physics and Electro-Chemistry), <i>continued</i> .	
Osmotic Pressure, Membrane-Potential and the Flocculation of Colloids, Theory of. N. Bjerrum	2853
Overvoltage, Gas Film Theory of. N. V. S. Knibbs	2644
Measurement and Cause of. S. Glasstone	2643
Oxidation and Combination of Gases by Electric Discharge, <i>see also</i> section Discharge.	
Potentials of the Molybdenum and Tungsten Octocyanides.	
O. Collenberg	2189
Non-luminous, of Phosphorus in an Oxygen Atmosphere. (Lord) Rayleigh	2860
Ozone and Nitric Oxides by Electric Discharges. K. B. McEachron	1972
Laws of Formation of, by Discharge. A. Chassy	1971
Passivity and Kathodic Overvoltage. E. Liebreich and W. Wiederholt	2642
of Metals with Particular Reference to Iron. W. J. Müller	3098
Influence of Anions on. V. Rothmund	2609
Periodic Law, Curves of. H. W. M. Thornton	154
Present Position of. W. R. Cooper	1010
System, Representation of. W. Palmaer	2856
<i>see also</i> section Molecular Physics.	
Phase Boundary Potentials. L. Michaelis and A. Fujita	2629
Thermo-dynamic, Theory of. E. Abel	2630
Rule, <i>see</i> sections Chemical Equilibrium and Thermodynamics.	
Phosphorus, Glow of, and its Extinction by Moist Oxygen. (Lord) Rayleigh	335
Photochemical Decomposition of Monochlor- and Monobrom-Acetic Acid and the Einstein Law. E. Rudberg	2307
Properties of Cuprous Oxide. A. D. Garrison	1605
Reactions and Light of Periodic Intensity. P. Lasareff	1158
Sensitisation of Ethyl Maleate, etc. J. Eggert	1310
Photochemistry, Experimental Technique in. J. Plotnikow	1769
Photolysis, Uranyloxalate, Quantum Sensibility of. P. F. Büchi	2862
Platinum Group, Metals of. F. E. Carter	1307
Preparation of Double Fluorides of Metals of. H. I. Schlesinger and M. W. Tapley	1179
Metals, Investigations on. E. Wichers and L. Jordan	1308
Polonium, Separation of, from a Sodium Hydrate Solution by Various Solids. J. Escher-Desrivieres	2115
Porosity of Nickel to Hydrogen Gas. V. Lombard	153
Potassium, New Light Filter for Detection of. L. W. McCay	1596
Potential Difference at the Boundary of Two Phases. D. Reichinstein	2188
between Air and a Solution. A. Frumkin	2368
Purple of Cassius, Chemical Nature of. A. Huber	1303
Shock, Propagation of Wave of. P. Lafitte	2184
Sign of Electric Potential, Standardisation of. A. W. Porter	2369
Silica Glass, Permeability of, to Helium and Hydrogen. G. A. Williams and J. B. Ferguson	1589
Silvering of Glass by the Formol Process. A. Cotton	1657
Solution and Solubility, <i>see</i> separate section.	
Solutions in KI in Nitromethane, Conductivity and Ionisation of. J. C. Philip and H. B. Oakley	2360
Superficial Solutions, Compression and Expansion of. A. Marcelin	186
Supersaturation of Gases in Water and Certain Organic Liquids. J. Metschl	2164
Suspensions of Electrolytes added in Quantities too small to effect Flocculation, Protective Effect on. A. Boutaric and (Miss) G. Perrean	2860
Synthetic Metallic Bodies. F. Sauerwald and E. Jaenichen	2179
Thermo-Chemistry, <i>see also</i> section Miscellaneous (Heat).	
Thermodynamic Investigations, <i>see</i> section Thermodynamics.	
Titration Silver and Halogen Ions with Dye Indicators. K. Fajans and O. Hassel	1030
Valence, and the Electron. G. N. Lewis	1016
Valency Bond, Electrovalence and Covalence. S. H. C. Briggs	1946
Bohr's Atom in Relation to Problems of. R. H. Fowler	1017
Chemical, of Metals. H. G. Grimm and K. F. Herzfeld	1015
Electronic Theory of. B. Flürscheim	1023
<i>For the Explanation of this Index see p. 1164.</i>	1045

Miscellaneous (Electricity and Magnetism), <i>continued</i> .	
Nagaoka's Correction Factor K. E. J. Hobbs	2146
Ohm's Law, Validity of, for an Electrolyte with High-Potential Gradients. M. Wien	1280
Permeability, <i>see</i> section Magnetism.	
Photochemistry, First Law of. Muriel C. C. Chapman	2741
Photoelectric Activity, Variation in. T. H. Osgood	2142
Cells, <i>see</i> sections Batteries, Primary and Discharge.	
Piezoelectric Constants of Tourmaline. D. A. Keys	324
Effects with Dielectrics. K. R. Brain	1672
Piezoelectricity and Molecular Asymmetry. R. Lucas	2328
Polarisation (Electrolytic), <i>see</i> separate section.	
Positive Column of the Mercury Arc, Remarkable Property of, Influence of External Sheath. L. Dunoyer and P. Toulon	2837
Reluctivity, <i>see</i> section Magnetism.	
Röntgen Rays, <i>see</i> section X-rays.	
Short-Circuit Figures, Electrical. E. Möller	953
Specific Inductive Capacity, <i>see</i> section Dielectrics.	
Static Electricity, <i>see</i> separate section.	
Stream Lines in the Two-Dimensional Motion of a Perfect Fluid, Electrical Method for Tracing. E. F. Relf	2823
Telegraphy, <i>see</i> Section B.	
Telephony, <i>see</i> Section B.	
Terrestrial Magnetism and Electricity, <i>see</i> separate section.	
Thermoelectricity and Thermomagnetism, <i>see</i> separate section.	
Tubes, Vacuum, <i>see</i> sections Discharge and Apparatus.	
Voltaic Action, <i>see</i> section Batteries, Primary.	
Voltmeters, <i>see</i> section Electrolysis.	
Waves, <i>see</i> section Oscillations and Waves.	
Wireless Telegraphy, <i>see</i> Section B, <i>also</i> section Oscillations.	
X-rays, <i>see</i> section Rays.	
Miscellaneous (General Physics).	
Adiabatic Hypothesis, Extension of. K. Försterling	2437
Adjustment of Levels. T. F. Connolly	2383
Aerodynamics, <i>see</i> section Dynamics.	
Airy Potential Function. W. Gauster	2423
Alloys, <i>see</i> separate section.	
Altitude of Aircraft, Determination of. W. G. Brombacher	197
Angle as a Fourth Dimensional Quantity. A. Bartorelli	407
Ascensional Rate of Pilot Balloons. W. C. Haines	2684
Astronomy, <i>see</i> separate section.	
Atomic Weights, <i>see</i> section Molecular Physics, Matter and Ether.	
Bessel Functions, Tables of. H. E. H. Winch and Dorothy Winch	743
Birds in Flight, Power of. E. Huguenard, A. Magnan and A. Maniot	748
Brownian Motions, <i>see</i> section Molecular Physics.	
Capillarity, <i>see</i> section Surface Tension.	
Compressibility of Gases under High Pressures. P. W. Bridgman	1356
of Quartz, Brass and Tourmaline. H. C. Bates	1654
Critical Constants, <i>see</i> section Critical Points.	
Data of Physical Science, Whitehead's Re-formulation of. G. W. de Tunzelman	1080
Deformation, <i>see</i> section Elasticity.	
Density, <i>see</i> separate section.	
Depth-Sounding for Navigational Purposes, Acoustic Method of. J. J. J. J.	1660
Depth, Perception of (Stereoscopic Visual Acuity). H. Kellner	462
Detonation at a Distance, Transmission of. E. Audibert	1360
Electrical Method for Determination of Velocities of. J. E. P. J.	1359
Wagstaff	742
Dewar Flasks for Liquid Air, Tests upon. H. Briggs and J. Mallinson	742
Diffusion, <i>see</i> separate section.	
Dimensional Analysis. E. Buckingham	2668
N. Campbell	1039
Discontinuous Quantities, Representation of. L. Labocetta	406
Dynamics, <i>see</i> separate section.	
Effusion of some Vapours, Experiment on. E. Voas	1367
Ehrenfest's Principle, Applicability of. E. Fermi	408
For the Explanation of this Index <i>see</i> p. 1154.	

- Miscellaneous (General Physics), continued.**
- Periodicities, Difference-Penodogram, for Determination of, C. E. P. Brooks 1371
- Photoelastic Methods, Engineering Problems Solved by, E. G. Coker 201
- Physical Axioms, Meaning of, A. Müller 388
- Properties of Elements at High Temperatures, M. N. Saha 209
- Physikalisch-Technische Reichsanstalt for 1923, Report of 1332
- Pivotal Movements, Friction of, A. Jaquerod, L. Defosse, and H. Mugeli 200
- Planimeter, Benze-Wolf Fibre Polar, K. Oltag 2046
- Plastic Material, Viscous Flow of, B. Marzetti 1367
- Plasticity and Elasticity, E. C. Bingham 1366
- Powder, Compressed, Distribution of Densities in Columns of, E. E. Walker 194
- Powders, Compressibility of, E. E. Walker 193
- Properties of, E. E. Walker 2654
- Variation of Pressure with Depth in Columns of, J. H. Shaxby and J. C. Evans 192
- Pressures (High and Low), *see* separate section.
- Probability Curves showing Poisson's Exponential Summation, G. A. Campbell 1052
- Psychology, Physics and Modern, L. T. Troland 1647
- Quantum Integrals, Evaluation of, J. H. van Vleck 1386
- Problem, Field Theory and Solution of, A. Einstein 1077
- Theory and Quasi-Ergodic Motions, P. Ehrenfest 763
- Quartz Fibres, Preparation and Silvering of, T. C. Keeley 2888
- Resistance of Air to Falling Spheres, R. G. Lunn 738
- Resonance, Torsional, of Shafts, C. Platrier 2003
- Rigidity, *see* section Elasticity.
- Scattering of Particles by an Einstein Centre, W. S. Kimball 1389
- Sealing Base Metals through Glass, W. G. Housekeeper 101n
- Seismophysics and the Interior of the Earth, R. Yamamoto 2453
- Silvering of Glass by the Formol Process, A. Cotton 1657
- Smoke, Theoretical Scattering of, O. F. T. Roberts 735
- Space, N. Campbell 224
- into Polyhedra, Partitioning of, W. Barlow 424
- Specific Gravity, *see* section on Density.
- Spheres in their Motion through Gases, Resistance experienced by, P. S. Epstein 2425
- Spherical Source in a Rotating Liquid, S. F. Grace 2424
- Steam, Efflux, Velocity and Specific Heat of, *see* sections Gases and Specific Heat, *also* Section B.
- Stress-Measurement, Optical, Elasticity of Celluloid with reference to, H. E. L. Martin 1051
- Stress, *see* sections Elasticity and Metallography.
- "Superficial Solutions," Compression and Expansion of, A. Marcelin 186
- Surface Tension, *see* separate section.
- Time Service of the Paris Observatory, G. Bigourdan 1646
- Notion of, and Coordination of Movements, J. le Roux 1082
- Top, Influence of Earth's Rotation on, J. L. Synge 1062
- Torsion, *see* section Elasticity.
- Trevelyan Rocker, S. Bhargava and R. N. Ghosh 719
- Troublesome Systematic Error, F. H. Seares 390
- Units and Constants in Aerography, A. McAulie 436
- Ultimate Rational, N. Campbell 1331
- Vacuum Sealing with Wood's Metal, L. A. Welo 1658
- Vibrations, Torsional, in a Shaft, C. Platrier 2002
- Viscosity, *see* separate section.
- Volume Change of Metals during Solidification, H. Endo 1368
- Watches and Chronometers, Compensating Temperature Error of, P. Ditsheim 180
- Wave Forms, Non-Harmonic, Approximations to, R. Rüdenberg 1054
- Wave-Motion Models having "Dispersion" and "Filter" Properties, T. Brown 1372
- Weight-Mass Ratios: New Gravitational Experiments, C. F. Brush 375
- Weights and Measures 2879
- Wetting of Solid Surfaces, H. Devaux 382
- World with Negative Curvature of Space, Possibility of, A. Friedmann 1390
- Miscellaneous (Heat).**
- Air, Liquefaction and Rectification of, L. D. Goldsmith 2814
- Aluminium, Annealing of, H. Röhrig 2816

- Miscellaneous (Heat), continued.**
- Atomic Concentration and Mechanical, Thermal and Optical Constants of the
 Elements. P. Lasareff 2397
- Boiling-Points, see section Freezing-Points.
- Combustion Inflammation and Flame Propagation, see section Gases.
- Convection of Heat in Vertical Water Column. H. H. Poole 1511
- Freezing-Points, see section Radiation (Heat).
- Convective Cooling in Liquids. A. H. Davis 2127
- Corresponding States, Berthelot on van der Waal's Law of. Bochet 1513
- Earth, Thermal State of. A. P. Socolow 2093
- Earth's Surface, Heat Escape from. J. R. Cotter 2039
- Emissivity, see section Radiation (Heat).
- Evaporation from Water and Thermal Emission. M. Allen 1847
- of Carbon. Wertenstein and Jedrzejewski 112
- of Liquids. T. B. Hine 2293
- Expansion, see section Dilatation.
- Explosions, see also section Gases.
- Freezing, Melting-, and Boiling-Points, see separate section.
- Gases and Vapours, see separate section.
- Heat given off by Radium Bromide, Small Variations of. H. le Bel 2808
- Transfer, Laws of. R. Becker 676
- Ionisation, Thermal, of Gases. R. Becker 676
- Iron, Cementing of Small Pieces of. D. Uno 2816
- Joule-Thomson Effect in CO₂. E. S. Burnett 1514
- Report on. H. M. Davis 895
- Work at Harvard University on. R. W. Kleinmichmidt 894
- Latent Heat, see section Specific Heat.
- Measurements, see separate section.
- Melting-Points, see section Freezing-Points.
- Miscibility of Substances above the Critical Temperature. T. des Coudres 1218
- on Volumes, Influence of the Neighbourhood of Critical State of.
 N. Perrakis 1516
- Specific Heat and Heat of Mixture in Neighbourhood of Critical
 State of. N. Perrakis 1210
- Oxides, Metals, and Carbides at High Temperatures. O. Ruff 3002
- Pipes in Air, Heat Dissipation from. A. H. Gibson 742b
- Pyrometry, see section Thermometry.
- Radiometer Action, see section Radiation (Heat).
- Solidification, Volume Change of Metals during. H. Endo 1368
- Solids, Internal Pressures of. T. W. Richards 2546
- Specific Heat, see separate section.
- Surface Fracture Figures produced in Glass by Thermal Means. E. Berger 2806
- Temperature, see separate section.
- Temperatures (High and Low), see separate section.
- Thermodynamics, see separate section.
- Transmission, Heat. R. H. Heilmann 926b
- Vapour Pressure, see separate section.
- Wiedemann Franz Law. A. Eucken and O. Neumann 2991
- Miscellaneous (Light).**
- Aberration and Moving Media, see section Rays.
- of Light in Terms of the Theory of Relativity as illustrated on a
 Cone and a Pyramid. V. Karapetoff 2928
- Aberrations of Optical Systems. L. Lenouvel 2737
- Absorption, see separate section.
- Atomic Concentration and Mechanical, Thermal and Optical Constants of the
 Elements. P. Lasareff 2397
- Birefringence, Electromagnetic, of Active Bodies. R. de Malleman 2717
- Canal Rays, see section Rays.
- Chemiluminescence of the Iodide of the Liquid Base. A. Petrikaln 2493
- Colour and Colorimetry, see section Absorption (Light).
- Complementaries, Spectral, Normal Colour Sense. R. H. Sinden 1417
- Corona, Photometric Intensity of, at Eclipse of 1922, (Sept. 27) at Walla.
 A. D. Rosa 2456
- Correspondence Considerations. W. Lenz 2502

For the Explanation of this Index see p. 1154.

Crookes Tube. *see* Tubes (section Discharge).

Books Tube, <i>see</i> Tub (section Discharge)	
Crystals, Optical Properties of, <i>see</i> section Molecular Physics	
Deviation of Light, <i>see</i> section Rays and Radiation	
"Diametral Plane" in Elementary Optics, Use of, C. H. Lees	2485
Diffraction, <i>see</i> section Interference	
Diffusion and Absorption, Atmospheric, on Signal Lights and Projectors, Effect of, E. Karrer	1409
of Light by Kr and Xe, J. Cabannes and C. Lepape	2740
Dispersion, <i>see</i> separate section	
Dyed Threads, Spectro-Photometric Examination of, P. P. Woronkoff	1414
Dyestuffs, Photoluminescence of, A. Carrelli and P. Gringsheim	497
Electromagnetic Waves, <i>see</i> section Oscillations and Waves	
Ether, Relative Motion of, <i>see</i> also sections Molecular Physics, Dynamics and Interference	
Fastness to Light, Testing Coloured Material for, H. S. Thayer	1753
Fluorescence, <i>see</i> section Phosphorescence	
Gas Mantle, Incandescent, Radiation from, E. Podszus	489
Glare, particularly by Headlights, G. Gehlhoff and H. Schering	457
Grating Errors and "Ghosts," R. W. Wood	2726
Hales, Pleochroic, J. Joly	73
Hyperbolic Relation in Geometrical Optics, S. Bodócs	2055
Illumination of a Surface by a Spectroscopic Slit, A. Hnatek	1438
Index of Reflection, <i>see</i> section Reflection	
of Refraction, <i>see</i> section Refraction	
Interference, <i>see</i> separate section	
Kathode Rays, <i>see</i> section Rays	
Lenses and Optical Systems, <i>see</i> separate section	
Light emitted from Solid Nitrogen when bombarded with Kathode Rays, L. Vegard	2093
Filter, New, for Detection of Potassium, L. W. McCay	1596
Scattering in Turbid Media, A. Carrelli	2057
Velocity of, M. la Rosa	2470
Luminescence of Nitrogen, Argon and other Condensed Gases at Very Low Temperatures, J. C. McLennan and G. M. Shrum	2771
Lustre, Metallic, W. D. Bancroft and R. P. Allen	2471
Motion, Optical Effects of, P. Zeeman	2225
Moving Source, Light from, <i>see</i> sections Rays and Interference	
Night Sky, Light of, (Lord) Rayleigh	2947
Optical and Chemical Constants, Deformability of Ions on, W. Heisenberg	3089
Influence of Deformability of Ions on, H. Kornfeld	3090
Collineation without Reference to Metrics, L. Silberstein	2037
Doublets and Triplets, Absolute Intervals of, A. Landé	2503
Optically Active Media, Properties of, H. Chipart	2039
Active Substances, R. Gans	2712
Penetration of Waves and their Rays into a gradually varying Medium, J. A. Wilcken	2505
Photochemical Reactions, <i>see</i> section Miscellaneous (Chemical Physics)	
Photochemistry, Experimental Technique in, J. Plotnikow	1768
Photometry, <i>see</i> separate section	
Photophoresis, O. Halpern	1149
Prism Testing, G. W. Moffitt	470
Propagation of Light in Media with Periodic Structure, H. Chipart	1154
through Varying Media, A. Perot	1153
Quantum Optics, G. Wentzel	1435
Radiation of Iodine Bands, Processes during, O. Oldenberg	2498
-Pressure, <i>see</i> section Rays and Radiation	
Rays, <i>see</i> separate section	
Röntgen Rays, <i>see</i> section Rays	
Röntgenographic-Chemical Investigations, M. Siegbahn	2103
Rotatory Polarisation, <i>see</i> section Polarisation	
Scattering of Light, <i>see</i> section Interference	
Slits, Effect of Material of Sides of, on Intensity of Light transmitted, C. R. Smith	1437
Sodium-Potassium Alloys, Free Electron Characteristics of, C. V. Kent	477

For the Explanation of this Index *see* p. 1154.

Molecular Physics, Matter, and Ether, continued.	
Chemical Forces, Electrical Explanation of. M. Born	2863
Cobalt, Structure of. H. Collins	2912
Coefficient of Viscosity of Helium and the Coefficient of Slip of Helium and Oxygen by the Constant Deflection Method. M. N. States	191
Colour Production, Theory of. J. Stieglitz	677
Copper, Structure of. H. Collins	2913
Crystal Forms and Lattices. M. Yamada	2443
Structure of Oxalic Acid. H. Hoffmann and H. Mark	2915
see separate section.	
Crystals of Chlorate of Potash, Colours of. L. A. Ramdas	2240
Dielectric in the Light of the New Theory of the Atom. G. Jacoby	2920
Dispersion on Quantum Hypothesis. K. F. Herzfeld	2071
Earth as Reference System for Light Rays. L. Silberstein	2672
Electric Moment and Electrical Structure. C. P. Smyth	1070
Electrical Conductivity and the Bohr Atomic Theory. O. Feussner	2582
Field, General Formulation of Movement in. Mary E. Laing	2871
Structure of Matter. E. Rutherford	215
Theory of Solid Bodies. J. Frenkel	2434
Electron in Quantum Theory, Explosion of. C. E. Guye	2307
Theory of Chemistry. J. J. Thomson	155
of Solids and Rigidity of Metals. D. Banerji	2432
Electronic Conduction in Metals. A. Bramley	1247
Orbits in the Alkali Metals. R. B. Lindsay	2433
Electrons in Atoms, Characteristics of. R. A. Millikan	2665
Distribution of, in the L Levels of Atoms. A. Dauvillier	1382
Scattering of, by Positive Nucleus. C. Davisson	311
see section Electromagnetic Theory.	
Elements, Complexity of. A. S. Russell	2353, 2919
Groupings of, and Spectral Lines of Hydrogen. F. H. Loring	1009
Ether Theory and Relativity Theory, Contradictions between. E. Gehrcke	768
Excited Atoms, Chemical and Spectroscopic Properties of, and Reversible Effects of Electron Impacts in Gases. K. T. Compton	507
Films, Liquid, Structure and Disintegration of. W. Taylor and M. Brillouin	1664
Fluorspar, Lattice Theory of. G. Heckmann	1391
Gas Molecules, Effective Cross-Section of, towards Slow Electrons. C. Ramsauer	216
Gravitation upon Light from the Standpoint of the Ether Theory. R. Hiecke	2444
Gyro-Magnetic Ratio, Null Method of Measuring. W. Sucksmith and L. F. Bates	333
Heat Equilibrium in Radiation Field in Presence of Matter. S. N. Bose and A. Einstein	2752
Helium Nucleus, Structure of. Y. Takahashi	2439
Neutral, Quantum Numbers for. A. E. Ruark, P. D. Foote and F. L. Mohler	1379
Theory of. W. Heisenberg	2198
F. J. v. Wiśniewski	1381
Hilbert's Theory of Matter, Energy Components in. A. Bokowski	1376
Hydrogen Atom, Possible Mechanics of. W. M. H. Greaves	423
Molecule, Moment of Inertia of. R. C. Tolman	758
Quantum Theory of. L. Nordheim	421
unlike Atom, Orbit of Valency Electron in. K. Basu	1069
Chemical Constant of. W. H. van de S. Bakhuyzen	2549
Secondary Spectrum of. P. Das	20
Impulse, Conservation of, during Stimulation and Ionisation-Shock. G. Joos and H. Kulenkampff	2669
Infra-red Absorption Measurements, Quantitative, and Molecular Structure. J. Lecomte	2756
Iron Molecules, Electric Dissymmetry of. A. Perrier and A. J. Staring	662
Isomorphous Compounds $(\text{NH}_4)_2\text{ZrF}_6$ and $(\text{NH}_4)_2\text{HfF}_6$, Structure of. O. Hassel and H. Mark	2917
Isotopes of Mercury and Structure of the Green Line. R. Brunetti	2918
Lattices, Electrostatic Potentials and the Energies of. H. Kornfeld	1383
Light from Extra-Terrestrial Sources, Behaviour of. R. Tomaschek	769
Propagation of, in Interstellar Space. P. Lenard	776
Liquids, Anisotropic, Theory of. C. W. Oseen	1675
Lithium, p and d Terms of. F. J. v. Wiśniewski	2438

For the Explanation of this Index see p. 1154.

Molecular Physics, Matter, and Ether, <i>continued</i> .	
Magnetic Moments of Rotation and Magnetic Molecular Orientation. R. Lucas	661
Magneton Numbers, Spectroscopic. A. Sommerfeld	213
" Values of. P. Weiss	2436
Mass-Spectrograph, Recent Results obtained with. F. W. Aston	2603
Michelson and Morley Experiment. E. Brylinski	430, 2922
" " L. Strum	2206
Michelson's Experiment. E. Brylinski	1397
" " A. Metz	1396
" " Lorentz's Contraction and Relativity. E. Brylinski	1398
" " Precision of. E. Brylinski	765
Molecular Attraction and Combination. O. Maass	2858
" Diameters, and van der Waals' Vapour-Pressure Equation. S. P. Owen	1230
" Field, Electrostatic Nature of. P. Weiss	1384
" Fields and Cohesion. H. Chatley	2426
" Reflection, Nature of, and Law of Fall of a Sphere through a Gas. R. A. Millikan	208
" Roughness of a Mercury Surface. R. Gans	2028
" Sphere of Action and Internal Pressure. W. Herz	217
Molecule-Structure and Absorption Spectra in Vapours. V. Henri	837
Molecules in a Fluid, Mean Distance between. C. V. Raman	1997
" in Upper Quantum States, Life of. R. C. Tolman	1677
" Gas, Effective Radii of. L. L. Nettleton	1872
" Quantum Theory of. M. Born and W. Heisenberg	1387
Moment of Inertia of Copper Molecule. R. Frerichs	853
Moments, Electrical, of Atoms and Molecules. R. D. Kleeman	418
Naphthalene-Vapour, Absorption Spectrum of, and Structure of Naphthalene Molecule. V. Henri and H. de László	2774
Neon and Argon, Structure of. H. Collins	1388
" Spectrum, Structure of. A. Landé	97
" Motion of Electrons in. V. A. Bailey	1071
Newtonian Hyperbolic Reflection, Hodograph of. C. Barus	1395
Non-Polar Link, Nature of. N. V. Sidgwick	1018
Octet Stability and Reactivity in Carbon Compounds. R. Robinson	1020
Optical Doublets and Triplets, Absolute Intervals of. A. Landé	2503
Oun, Application of, to Series Grouping. W. M. Hicks	2750
Paschen-Back Effect in the H Atom. H. Falkenhagen	2749
Periodic System, Representation of. W. Palmaer	2856
Photoelectric Ejection of an Electron from an Atom by X-rays of chance. G. E. M. Jauncey	2791
Photolysis, Uranyloxalate, Quantum Sensibility of. P. F. Büchi	2862
Physical Properties of Elements at High Temperatures. M. N. Saha	209
Polarities, Alternate, in Chain of Atoms. A. Lapworth and R. Robinson	1019
Polarity, Variable, in an Atom. H. Henstock	1021
Propagation of Light and Several New Investigations of Rudolph Tomaschek, Ballistic Principle in. M. la Rosa	2903
Quantum Integrals, Evaluation of. J. H. van Vleck	1386
" Mechanics. M. Born	2677
" Numbers, Half-Integral in the Theory of the Stark Effect. A. M. Mosharrafa	2506
" Theory and Dielectric Constant. J. H. Jones	2588
" " applied to the Magnetic Field. W. Gerlach and O. Stern	2662
" " of Atomic Construction, Difficulties of. A. Landé	761
" " of Radiation. N. Bohr, H. A. Kramers and J. C. Slater	2065
" " Basis of. H. A. Szentpály	1688, 2909
" Atoms, and Radiation. O. Lodge	28
Radii of the Alkali and Halogen Ions and of the Atoms of Inert Gases. W. P. Davey	419
Radio-Active Transformations, Quantum Theory of. A. Smekal	2793
Recoil Electrons by Polarised X-rays, Distribution of. G. E. M. Jauncey	2098
Refraction, Mass, of Ions and Molecules in the Light of the Atom Structure. K. Fajans and G. Joos	2239
Refractivity and the Molecular Phase Hypothesis. I. E. C. C. Baly and R. A. Morton	2716
Röntgenographic-chemical Investigations. M. Siegbahn	2103

For the Explanation of this Index see p. 1154.

Abstract Nos.

For the Explanation of this Index see p. 1154.

V.27
1924

Oscillations and Waves (Electric), <i>see also</i> Rays and Discharge and	
Section. Telegraphy (Wireless) in Section B, <i>continued</i> .	
Oscillation Circuits, Calculation of. G. Kuprijanow and P. Schmakow	907h
Polarisation of Resonance Light, Influence of Magnetic Field on. G. Joos	2052
Propagation and Reception of Wireless Waves. F. Kiebitz	960
" of Electric Waves in a Straight Metallic Wire. K. Försterling	138
" of Electromagnetic Waves. D. R. Hartree	29
Reflection and Refraction of Electrical Waves. K. Försterling	1901
Registration of Electromagnetic Oscillations of High Frequency. A. Dufour	1929
Resonance Curves and Types of Damping. D. Roschansky	1902
Rotation of the Plane of Polarisation of Electromagnetic Waves. K. F. Lindman	2954
Short Electric to Long Heat Waves, Change-over from. M. Lewitsky	1556
" Electromagnetic Waves up to 82 Microns. A. Glagolewa-Arkadiewa	1904
" Wave-lengths, Experiments on. R. Mesny	1905
" Oscillations. G. Breit	1903
" Waves with Tubes having a Glowing Cathode, Production of. A. Scheibe	961
Stationary Electromagnetic Waves. W. Kopp	621
Triode Oscillator, Stability of Periodic, States of. W. M. H. Greaves	1557
Valve Transmitters, Oscillographic Study of. A. Dufour and R. Mesny	959
Wave Filters. F. Conrad	1906
Waves, Stationary, on Free Wires and Solenoids. A. Press	584h
Wireless Telegraphy, <i>see</i> section B.	
Osmosis.	
Aqueous Solutions. Origin of Osmotic Effects. C. Gillet	340
Electro-Endosmosis and Electrolytic Water Transport. H. Remy	175
Electrosmosis and Electrophoresis. O. C. Ralston	1041
Kinetic Theory of Osmotic Pressure in Strong Electrolytes. P. Debye	158
Osmotic Equation of State and the Activity of Electrolytes. P. Debye	1957
" Pressure of Electrolytes. E. and H. Hammarsten	1602
" of. N. Bjerrum	2853
Phosphorescence and Fluorescence.	
Chemiluminescence. A. Petrikaln	1597
Dyestuffs, Photoluminescence of. A. Carrelli and P. Pringsheim	497
Fluorescence. A. Gyemant	2744
" S. Valentiner and M. Rössiger	2494
" and Absorption Spectra of Alkalies. J. C. McLennan and D. S. Ainslie	84
" of Esculin Solutions. (Miss) M. B. Kearney	2063
" of Didymium in Glass. N. C. Krishnaiyar	2262
" of Dyestuffs, Polarisation of. E. Gaviola and P. Pringsheim	2263
" of Lead and Bismuth Vapour. H. Kopferman	1447
" of the Alkaloids. E. Bayle and R. Fabre	2266
" Spectra of Phenol and Phenolic Ether Vapours. J. K. Marsh	1168
" Yield from Dyestuff Solutions. S. J. Wawilow	1446
" Destruction of, by Ultra-Violet Light. (Miss) F. M. Cale	77
" Sensible, of Gases. J. Franck	513
" Spectrophotometric, Definition of Colours of. H. George and E. Bayle	2268
" Ultra-Violet, by X-rays, Spectrographic Study. J. O. Perrine	537
Fluorescent Rhodamin B, Optical Properties of. A. Poritsky	2264
" Solutions, Rotatory Dispersion in. A. Carrelli	76
" Tubes, Radiations which excite Fluorescence. Risler	79
Fluorescing Power, Decrease of. F. Perrin	2261
Luminescence of Organo-Magnesium Halides. R. T. Dufford, S. Calvert and Dorothy Nightingale	259
" of Titanium Oxide. E. L. Nichols	498
" produced by X-rays. A. J. de Beaujeu	500
Organic Compounds, Fluorescence of. E. Bayle and R. Fabre	1160
Phosphores and Stokes's Rule. B. Gudden	1159
" Electrical Conductivity of, and their Light Emission. B. Gudden and R. Pohl	1265
Phosphorescence Centre. A. Schleede	260
For the Explanation of this Index <i>see</i> p. 1154.	

SUBJECT INDEX.

1209

Abstract Nos.

Phosphorescence and Fluorescence, continued.	
Phosphorescence of the Rare Earth Elements in Phosphorescent Alkaline Earths. R. Tomaschek	2960
Energy liberated during. A. A. Guntz	2959
Polarised. A. Carrelli and P. Pringsheim	78
Photoelectric and Phosphorogenic Effect. M. Curie	2491
Photoluminescence of Flames. E. L. Nichols and H. L. Howes	486, 1448
Polarised Fluorescence in Colour Solutions. F. Weigert and G. K��ppler	2735
Light. A. Carrelli	2265
Fluorescent Light from Dyestuff Solutions. W. L. Lewschin	2734
Radio-Chemistry and Fluorescence. J. Perrin	499
Solid Solutions, Photoluminescence of. M. Curie	2605
Time Lag between Excitation and Emission in Fluorescence. P. F. Gotting	1161
Viscosity and Fluorescence. F. Perrin	2495
X-ray Fluorescence and the Comparison of the Intensity of X-rays. W. Kossel	873
Phosphorescence. J. A. Bearden	2786
Zinc Silicate, Fluorescent, and X-rays. A. Schleede and A. Gruhl	872
Photo-Electricity.	
Alkali Metals, Normal and Selective, Photo-effect of. K. Farwig	1259
Amplification of the Current of Photoelectric Cells. G. Ferri�, R. Jouaust and R. Mesny	654
Argentite (E. M. F.). Photoelectric effects in. P. H. Geiger	636
Cesium Vapour, Photoelectric Effect of. J. Kunz and E. H. Williams	595
Cinnabar, Photoelectric Conductivity of. B. Gudden and R. Pohl	964
Cuprous Oxide and Selenium, Light Sensitivity of. V. P. Barton	1913
Photo-Voltaic Cells. A. D. Garrison	1325
with Photoelectric Properties, Formation of. J. Pionchon and (Miss) F. D��mora	2628
Electrodes, Metal, Action of Light on. R. Audubert	690
Glow Electronic Emission at Transition and Melting-Points. A. Goetz	605
Heat Treatment and Photoelectric Emission from Platinum. F. G. Tucker	1542
Helium, Photoelectric Properties of. J. S. Townsend and S. P. McCallum	1886
Hertz Gratings. C. Schaefer	2139
Kathode Fall, Normal, and Photoelectric Sensitiveness of Metallic Sulphides and Metallic Oxides. B. Aulenkamp	305
Light on Metals in Solutions of their Salts, Electromotive Force produced by. G. Athanasiu	1321
Molybdenite, Thermoelectric and Actinoelectric Properties of. W. W. Coblenz	2592
Photoelectric Activity, Variation in. T. H. Osgood	2142
and Calorific Action of Radiation on Metals plunged into Solutions of their Salts. G. Althanasiu	1317
and Phosphorogenic Effect. M. Curie	2491
and Photochemical Activity. O. W. Richardson	2060
Cell, New. J. Tykocinski-Tykocyner and J. Kunz	1917
Cells, Amplification of the Currents of. G. Ferri�, R. Jouaust and R. Mesny	1916
Conductivity of Diamond. (Miss) M. Levi	140
Currents. W. Schottky	134
Effect. R. D��mpelmann and W. Hein	1883
E. Fermi	963
F. Kirchner	2580
and Temperature. M. Curie	3048
Ejection of an Electron from an Atom by X-rays of Chance. G. E. M. Jauncey	2791
Emission from Insulators. P. Cardani	139
Photoelectricity. S. Timpanaro	141
Photoelectric Velocities, Symmetry of. R. J. Piersol	1884
Photoelectrons Liberated by R��ntgen Rays, Directions of Emission of. W. Bothe	2518
Photovoltaic Cell, Behaviour of Silver Iodide in. A. Garrison	2190
Polarisation, Influence of, upon Photovoltaic Effects. R. Audubert	1034
Potassium Photoelectric Cells. H. E. Ives	2627
Radio-photoluminescence and Radio-luminescence. K. Przibram and Elizabeth Kara-Michailova	2062

For the Explanation of this Index see p. 1154.

Photo-Electricity, continued.	
Reflection of Electrons Induced by Light. I. Langmuir	928
Rock-salt Crystals, Photoelectric Action in. J. Bingel	1258
Statistical Equilibrium in Relation to Photoelectric Effect, and Determination of Absorption Coefficients. E. A. Milne	833
Tertiary Radiation produced by Impacts of Photoelectrons. G. L. Clark and W. Duane	2102
Thermionic and Photoelectric Properties of the Electro-Positive Metals. A. F. A. Young	927
Photography.	
Apparatus, <i>see</i> separate section.	
Becquerel Rays, Photographic Action of. R. Wälder	875
Blackening of Photographic Plates, Laws of. H. Buisson and C. Fabry	1766
Camera, High-speed, for Study of Projectiles. H. L. Curtis, W. H. Wadleigh and A. H. Sellman	2406
Characteristic Curve, Under-Exposure, Period of. R. Luther	1014
Development of Faint Images in Fogging. S. R. Pike	793
of the Latent Image after Fixing. L. Lumière, A. Lumière and A. Seyewetz	2061
Discharge, Electric, Photography of, with the Positive Column in Motion. G. Valle	2572
Emulsion, Photographic, Structure of. E. P. Wightman, A. P. H. Trivelli and S. E. Sheppard	1012
Physical Chemistry of, and of the Vehicle. T. S. Price	1011
Silver Bromide, Sensitivity of, Action of Chromic Acid. W. Clark	1013
Emulsions, Photographic, Size-frequency Distribution of Grains of Silver Halide in. E. P. Wightman, A. P. H. Trivelli and S. E. Sheppard	74
Exposure Theories. S. E. Sheppard, A. P. H. Trivelli and E. P. Wightman	495
Fundamental Problems in Photography. T. S. Price	2958
Gelatin, Photographic Chemistry of. S. E. Sheppard, F. A. Elliott and S. S. Sweet	682
Latent Image Formation, Mechanism of. F. C. Toy	494
Lens for Whole-Sky Photographs. R. Hill	2729
Lenses and Objectives, <i>see</i> separate section.	
Lumbar Plate, Use of. G. Hansen	2250
Mercury-Vapour Lamps, Physiological and Photographic Effects of. M. Leblanc and Broca	1142
Optical Properties of the Photographic Emulsion. F. E. Ross	496
Photochemical and Photoelectric Activity. O. W. Richardson	2060
Photochemical Decomposition of Monochlor- and Monobromacetic Acid and the Einstein Law. E. Rudberg	2367
Equivalence and the Dry Plate. J. Eggert and W. Noddack	490
Law in Silver Halide Emulsions. J. Eggert	492
Photochemistry of the Photographic Dry Plate. Part II. F. Weigert	491
Photographic Blackening-Law for X-rays. E. Jönsson	2099
Exposure, Time and Intensity in. L. A. Jones and E. Huse	1444
Film, Mensurational Characteristics of. F. E. Ross	1336
Objective in England and America between 1800 and 1875. M. v. Rohr	2742
Photometry in the Ultra-Violet. G. R. Harrison and C. E. Hesthal	1765
Plates, Exposed, Diffusing Power of. J. Eggert and G. Archenhold	2490
Some Properties of. C. Fabry and H. Buisson	2489
Photographs by Wire and Wireless. T. T. Baker	1637
Photography in Science, Industry and Medicine. T. T. Baker	2260
Photomicrography, Ultra-Violet, Focus-Finder for. W. T. Bowie and C. E. Barr	1430
Prototypes of Large Size over Great Distances, Projection of. L. Lumière	2480
Physical Chemistry of the Photographic Process	1311
Plates, Mixed, Colours of. K. S. Rao	2251
Schwarzschild Constant, Determination of. J. K. Robertson	842
Sensitivity of Silver Halide Grains. W. Clark	1157
Sensitometry, Grey Wedge and its Use in. E. Goldberg	455
Silver Bromide, Behaviour of, to Rays of Short Wave-length. T. Thorne- Baker	831

For the Explanation of this Index see p. 1154.

Photography, continued.

Silver Halides, Dispersion of	F. E. E. Germann and M. C. Hylan	1781
Size-frequency Distribution of Grains of Silver Halide in Photographic Emulsions	E. P. Wightman, A. P. H. Trivelli and S. E. Sheppard	2492
Solarisation, Studies in	H. Scheffers	832
Surveys from the Air	C. F. Close	1524b
Theory of Photographic Sensitivity	S. E. Sheppard and E. P. Wightman	258
of Photography	W. D. Bancroft	493
Three-Colour Photography, Absorption of Printing Colour and Errors occurring in	A. J. Bull	75
Topochemistry of Development and Sensitising Nuclei	S. E. Sheppard, E. P. Wightman and A. P. H. Trivelli	834
Ultra-red, Photographic Method in	A. Terenin	208a

Photometry.

Brightness, Perception of, in Relation to Colour.	A. Duschek-Frankfurt	1418
Colour Match and Spectral Distribution.	W. E. Forsythe	1415
Determination of, in Terms of Dominant Wave-length, Purity and Brightness.	I. G. Priest	1418
Daylight Factor, Measurement of.	A. K. Taylor	1773
Fatigue in Different Regions of the Spectrum.	E. Haas	820
Glitter and its Measurement.	H. Schulz	1772
Hefner Lamp, Effect of Barometric Pressure on Candle-power of.	A. Boltzmann and A. Basch	235
Illumination of a Surface by a Spectroscopic Slit.	A. Hnatek	1438
Industrial and Technical Photometry, <i>see</i> Section B.		
Law of Weber-Fechner to Photometry, Application of.	P. Lasareff	2054
Light Distribution.	L. Bloch	1122
Low Brightness Photometer.	E. Karrer and A. Poritsky	1427
Photographic Blackening Law for X-rays.	E. Jönsson	2099
Photometry in the Ultra-Violet.	G. R. Harrison and C. E. Hesthal	1765
<i>see</i> section Photography.		
Photometer, Brightness, Optical Pyrometer as.	W. E. Forsythe	1771
New Flicker, for Heterochromatic Photometry.	J. Guild	1775
Star, New Photoelectric.	P. Guthnick	2951
Photometers, <i>see</i> section Apparatus and Instruments (Physical, excluding Electrical).		
Photometric Disc, New Type of.	E. Karrer	2042
Matching Field.	L. C. Martin	64
Measurements, Uniformity of Photographic Plates in.	(Miss)	
Clavier		1768
Photometry in the Ultra-Violet.	W. Wien	1784
Primary Standard of Light.	H. E. Ives	2040
Rotatory Dispersion Method of Colorimetry and Heterochromatic Photometry.		
I. G. Priest.		826
Spectral Complementaries, Normal Colour Sense.	R. H. Sinden	1417
Transmission, Measurements of.	I. G. Priest, H. J. McNicholas and M. Katherine Frehafer	1434
Thermoelectric Photometer, Magnitude Errors with.	H. T. Stetson and E. F. Carpenter	234
Transmission of Light in Instruments, Measurement of.	G. W. Moffitt and P. B. Taylor	2081
Tube Photometer in Spectro-Photometry, Application of.	K. Schaum, W. Henss	2481
Ultra-Violet Dosage with Quartz Mercury-Vapour Lamp.	J. M. Eder	2424

Polarisation (Electric Waves).

Rotation of the Plane of Polarisation of Electromagnetic Waves. K. F. Lindman 2954

Polarisation (Electrolytic).

Electromotive Equilibrium and Polarisation. A. Smits	2635
Nickel, Influence of Temperature on Polarisation of. S. Triandafylidis	2647
Overvoltage and Intermittent Current Electrolysis. S. Glasstone	176
..... see also section Electrolysis.	
Passivity, see also section Electrolysis.	
Photovoltaic Effects, Influence of Polarisation upon. R. Audubert	1034
For the Explanation of this Index see p. 1154.	

For the **Explanation** of this Index see p. 1154.

V.27
1924

Polarisation (Electrolytic), continued.	
Polarisation Capacities with Alternating Current. V. Sorrel	697
Capacity and Resistance of Electrolytic Cells at Radio-frequencies. " C. B. Jolliffe	694
Rotating Electrolytic Polarisation. S. Magrini, erroneously printed Q Majorana	172
Polarisation (Light, including Magnetic Rotation).	
Atmospheric Optical Polarisation. S. Aurino	482
Camphor and Carvone, Electric Birefringence of. R. de Malleman	1124
Colours produced by Rotation of the Plane of Polarisation. C. Pulfrich	2256
Crystals, Optical Activity in. H. Chipart	1442
Depolarisation of Light by Suspensions. O. Groll	2257
" " " W. Koenig	2258
Electromagnetic Theory of Rotatory Polarisation. H. Chipart	2067
Factor of Polarisation for N_2 , CO_2 , O_2 , Air, N_2 , NO , H_2 , CO . J. Cabannes and J. Granier	1150
Faraday Effect. W. Gerlach	2748
Fluorescence of Didymium in Glass. N. C. Krishnaiyar	2262
of Dyestuffs, Polarisation of. E. Gaviola and P. Pringsheim	2263
Fused Salts, Polarisation Effects in Films of. D. B. Deodhar and G. B. Deodhar	484
Glucose, Mutarotation of. H. v. Euler, K. Myrback and E. Rudberg	1443
Magnetic Field and Polarisation of Canal-Ray Light. R. v. Hirsch	2747
" Rotation in Sputtered Cobalt Films. L. R. Ingersoll	1777
Magneto-Optic Phenomenon, New. M. Holmes	68
Metallography in Polarised Light. L. C. Glaser	2365
Optically Active Substances. R. Gans	2712
Oseen's Theory of the Rotatory Power of Optically Active Liquids. A. Gumplich	485
Polarimeter and its Practical Applications. C. A. Skinner	825
Polarisation of Light diffused laterally by Transparent Gases. J. Cabannes and J. Granier	1150
" of Resonance Light, Influence of Magnetic Field on. G. Joos	2052
" " Radiation. G. Breit	2068
" of Scattered Light. C. V. Raman and K. S. Rao	69
" Atmospheric. J. J. Tichanovsky	2212
Polarised Fluorescence in Colour Solutions. F. Weigert and G. Käppler	2735
" Light. A. Carrelli	2265
" Fluorescent Light from Dyestuff Solutions. W. L. Lewschin	2734
Quantum Optics. G. Wentzel	1435
Reflection of Plane Polarised Light by Etched Metals. O. Jones	2733
Resonance Light, Influence of Magnetic Field on Polarisation of. G. Joos	2955
" Polarisation of. L. S. Ornstein and H. C. Burger	2956
" Radiation of Vapours, Polarisation of. P. Pringsheim	2085
" Sodium, Polarisation of, in Magnetic Fields. E. Gaviola and P. Pringsheim	2497
Rotation of Plane of Polarisation of Light in Liquids by a Magnetic Field. M. Sende and G. Wiarda	2479
Rotatory Dispersion of Tartaric Acid. L. Longchambon	1441
" Polarisation of Light, Stokes on Theories of. J. Larmor	1439
" " Electromagnetic, Theory of. H. Chipart	1151
" " Natural, Theories of. H. Chipart	827
" Power, Theory of. R. de Malleman	253
Slits, Effect of Material of Sides of, on Intensity of the Light transmitted. C. R. Smith	1437
Stress Distribution, Optical Investigation of. W. Birnbaum	2418
Tungsten Filaments, Short-Wave Radiation from. M. Luckiesh, L. L. Holladay and A. H. Taylor	254
Pressures, High and Low.	
Acetone, Density and Viscosity of, at Low Temperatures. E. H. Archibald and W. Ure	1648
Compressibility of Gases under High Pressures. P. W. Bridgman	1356
Gases, Volume Changes of, under High Pressures. P. W. Bridgman	379
Time Service for 1923, International. G. Bigourdan	1645
Vacua, High and Low, Properties of Gases in. E. Rutherford	1359

For the Explanation of this Index see p. 1154.

Radiation (Heat), Convection, and Emissivity.	
Black Body Radiation at the Melting-Points of Gold and Platinum; Relative	
Brightness of. F. Hoffmann	3004
Cavity Radiation and Quantised Atoms, Equilibrium between. O. Halpern	1226
Convection of Heat, Free and Forced, in Gases and Liquids. C. W. Rice	890
Forced, of Heat in Gases and Liquids. C. W. Rice	2288
Convective Cooling of Wires in Streams of Viscous Liquids. A. H. Davis	2287
Emissive Power, Thermal, and Electrical Resistivity of a Metal. C. Davisson	
and J. R. Weeks, Jr.	2295
Energy in Radiation. W. Bothe	759
Heaviside's Expansion Theorem, Applications of. E. P. Adams	579
Light Radiation and Total Radiation of Wolfram. E. Lax and M. Pirani	2270
Long Heat to Short Electric Waves, Change-over from. M. Lewitsky	1556
Mirrors, Selective Transparent, in Radiation Theory. O. Halpern	578
Nature of Thermal Radiation. M. Planck	1841
Paints respecting Heat Radiation from Surfaces, Emissive Tests of. W. W. Coblentz and C. W. Hughes	2538
Pipes in Air, Heat Dissipation from. A. H. Gibson	742a
Planck's Law and the Light Quantum Hypothesis. Bose	2812
Quantum Theory and its Experimental Proof. R. Ladenburg	27
of Radiation Equilibrium. A. Einstein and P. Ehrenfest	762
Radiant Energy, Visibility of. K. S. Gibson and E. P. T. Tyndall	824
Radiation from Combustible Gases. A. Schack	2267
Pressure and Adiabatic Invariance, Dynamical Illustrations of. T. H. Havelock	2005
Theory and Specific Heats by E. Császár. E. Schrödinger	2544
Is it One-sided? G. Joos	823
Radiometer Investigations and Theory of. E. Einstein, W. Gerlach and E. Madelung	1236
Stefan-Boltzmann Law, Constant σ of. A. Kussmann	2804
Theory of Radiation, Function $\Delta\lambda = \phi(\lambda)$ in. C. Henry	1239
Thermal Emission and Evaporation from Water. M. Allen	1847
Equilibrium between Radiation and Free Electrons. W. Pauli, Jr.	577
Radiation of a Uniformly Heated Enclosure, Laws of. W. W. Coblentz	1519
Tungsten, Emissive Power and Melting-Point of. A. G. Worthing	1509
Radio-Activity.	
Air in the Schneeberg-Oberschlema Borings, Radium Emanation, Content of. P. Ludewig and E. Lorenser	1499
Alkali Metals, Radio-Activity of. G. Hoffmann	881
α -Particle Counter, Geiger. W. Kutzner	2118
from RaC, Number of Ions produced by. H. Fonovits-Smerekal	886
α -Particles by Light Nuclei, Large-angle Scattering of. E. S. Bieler	1832
Bombardment of Elements by. E. Rutherford and J. Chadwick	1833
Capture and Loss of Electrons by. E. Rutherford	1205
Determination of Effective Path of. S. C. Lind and D. C. Bardwell	559
Number of, emitted from Radium. H. Geiger and A. Werner	1203
Scattering of, Effect of Deviations from Inverse Square Law on. E. S. Bieler	561
α - and β -Particle Counter, Pointed Electrode, Mode of Action of. H. Geiger	2984
α -Ray Bulb as a Source of Ionisation, Characteristics of. D. C. Bardwell and H. A. Doerner	560
α -Rays and Canal Rays, Neutralisation of Nuclei and Secondary Radiation with. E. Rüchardt	1254
from UI and UII, Range of. B. Gudden	2986
in Different Gases, Ionisation along Path of. F. Hauser	884
in Helium and other Gases, Tracks of. W. C. McQuarrie	1502
Energies of, and Atomic Numbers of the Elements. L. Myssowsky	562
Atmosphere, Ionisation of, see also section Static Electricity.	
Atom, Nucleus of. E. Rutherford	1377
Atomic Nuclei, Disintegration of. H. Pettersson	1834
Rays, Soft. T. Volmer	2833
Atoms, Artificial Disintegration of. G. Kirsh and H. Pettersson	1202
Becquerel Rays and Photographic Plates. K. Fribram	106
For the Explanation of this Index see p. 1154.	

Radio-Activity, continued.	
Measuring Radiation from a Radio-Active Substance. (Miss) S. Maracineanu	554
Mineral Springs, Radio-Activity of. C. Viola	552
Optically Active Media, Properties of. H. Chipart	2039
Particles, Long-Range, observed with Sources of Radium C, Origin and Nature of. E. Rutherford and J. Chadwick	2980
Penetrating Radiations, Experimental Fundamentals for Measurement of. W. Kolhörster	2963
Penetration of Radio-Active Substances into Metals. (Miss) S. Maracineanu	877
of Radium Emanation Nuclei. E. Rie	104
Phosphorescence of Minerals coloured by Becquerel Rays. K. Przibram	284
Plants, Radio-Activity of. A. Nodén and D. Berthelot	1201
Polonium, Injected, in Animal Organs, Detection of. (Mrs.) J. S. Lattes and A. Lacassagne	1196
of Particles of Long Range from. L. F. Bates and J. S. Rogers	1501
Researches on Constant of. S. Maracineanu	109
Potassium Iodide, Reduction by β -rays. A. Kailan	1210
Protactinium, Period of. J. H. Mennie	110
Radio-active Disintegration Series. W. P. Widdowson and A. S. Russell	2982
and the Relation of Actinium to Uranium. A. S. Russell	285
Ions in the Bunsen Flame. E. N. da C. Andrade	2117
Radiation of Polonium. W. Kutzner	2114
Springs of Brambach and Oberschlema, Emanation in. P. Ludewig	2530
Transformations, Quantum Theory of. A. Smekal	2793
Radio-activities, Small, Measurement of. G. Hoffmann	2531
Radio-activity. J. E. Underwood	1497
of Springs in Bagnères-de-Luchon. A. Lepape	108
Radio-Luminescence and Radio-photo-luminescence. K. Przibram and Elisabeth Kara-Michailova	867, 2062
Radium Balance. L. H. Clark	4199
C, Preparation of. H. Pettersson	1198
C, Short-Life Product, Rate of Decay of. J. C. Jacobsen	880
Content of Feebly Active Substances by the γ -Ray Method. P. Ludewig	1200
Emanation, Exact Measurements of. A. Becker	1505
Purification of. V. F. Hess	1826
from Carnotite, Extraction of. H. H. Barker and H. Schlundt	1829
Amount of, in Naturally Occurring Titano-Niobates. A. Karl and S. Lombard	878
α -Particles ejected by. V. F. Hess and R. W. Lawson	2281
Mesothorium and Radiothorium, Estimation of. W. Bothe	2280
Thorium and Actinium, Particles of Long Range emitted from Active Deposits of. L. F. Bates and J. S. Rogers	1197
Radon, Radio-active Constant of. Irène Curie and C. Chamie	2120
Rocks, Radio-activity of. J. Joly	2119
Rubidium Radiation on Temperature, Dependence of. S. Geiger	1195
Scattering of Particles by an Einstein Centre. W. S. Kimball	1389
of X- and γ -Rays by Rings of Electrons. G. A. Schott	103
Thermal Springs in Madagascar and Reunion, Radio-activity of. C. Moureu	2795
A. Lepape and H. Moureu	1194
Thorium and Uranium, Connection between. G. Kirsch	1498
Emanation in Hot Springs. A. Lepape	1830
Origin of. S. Meyer and C. Ulrich	2116
Uranium and Radium, Relation between. F. Soddy and A. F. R. Hitchins	553
Mineral, Activities of Radio-active Substances in. W. P. Widdowson and A. S. Russell	105
X, γ -Rays of. O. Hahn and L. Meitner	556
Radio-active Products of. W. G. Guy and A. S. Russell	1182
X-ray and Radium Protection Committee. Revised Report No. 1.	
Rays and Radiation (excluding X-rays).	
Aberration of Light in Terms of the Theory of Relativity as illustrated on a Cone and a Pyramid. V. Karapetoff	2928
Aluminium and Magnesium Oxide, Radiation Properties of. F. Henning and W. Heuse	517

For the Explanation of this Index see p. 1154.

Rays and Radiation (excluding X-rays), continued.		Abstract No.
Bequerel Rays, Colouration and Luminescence produced by.	S. Meyer and K. Przibram	876
" Rays, Colouration and Luminescence produced by.	K. Przibram	882
" Photographic Action of.	R. Wälder	875
Canal Rays and α -Rays, Neutralisation of Nuclei and Secondary Radiation with.	E. R��chardt	1254
Rays, Doppler Effect in Line and Band Spectra of.	H. Rau	1272
" Photographic Action of.	M. Jakobson	1273
Carbon Bisulphide by Ultra-Violet Rays, Destruction of.	G. Bruhat and Pauth��nier	2352
Chemiluminescence of the Iodide of the Millon Base.	A. Petrikaln	2493
Colour, Determination of, in Terms of Dominant Wave-length, Purity, and Brightness.	I. G. Priest	1418
Crystal Structure, X-Ray Examination of, <i>see also</i> section Molecular Physics.		
" Symmetry and Residual Radiation.	C. J. Brester	2435
Deflection of Stream of Electrons by Electromagnetic Radiation.	E. O. Hulburt	300
Duration of Light from Atoms and Damping of Spectral Lines.	W. Wien	1784
Earth as Reference System for Light Rays.	L. Silberstein	2672
Einstein's Light Quantum, Dimensions of.	E. Marx	2064
Electrons, Free, and Radiation, Reciprocal Action between.	W. Bothe	1453
Elementary Rays and Single Ions, Acoustic Observation and Galvanometric Registration of.	H. Greinacher	2113
Emission of Light by Atoms, Determining Duration and Law of.	E. Bauer	1785
" from Excited Atoms.	G. Mie	1152
" of Quanta, and Inertia of Spherical Electric Layer.	C. E. Guye	2308
" Luminous, Mechanism of.	L. Duoyer	1786
Energy Fluctuations, Quantum Statistics of.	M. Planck	1076
" in Radiation.	W. Bothe	759
γ -Rays from Radium.	A. F. Kovarik	2283
" Secondary Radiation Due to.	D. Skobelzyn	2282
Hydrogen and Nitrogen, Dissociation of, by Excited Mercury Atoms.	O. S. Duffendack and K. T. Compton	2134
Infra-red Radiation, Instruments for detecting.	D. S. Perfect	2953
" Radiations, Permeability of Synthetic Resin to.	G. Kimpflin	2036
Kathode Rays, <i>see also</i> section Discharge.		
" " Conductivity Changes of Phosphores by.	E. Rupp	968
" " Determination of Velocity of.	F. Dacos	1888
" " Oxides emitting, Radiation from.	K. Teucke	1543
Light from Extra-Terrestrial Sources, Behaviour of.	R. Tomaschek	769
" Quantum and an Electron, Impact between.	L. S. Ornstein and H. C. Burger	1078
" Radiation and Total Radiation of Wolfram.	E. Lax and M. Pirani	2270
" Propagation of, in Interstellar Space.	P. Lenard	770
Luminescent Zinc Sulphides and Kunzites.	T. Tanaka	2132
Magnetic Field and Polarisation of Canal-ray Light.	R. v. Hirsch	2747
Mass-Spectra, Part V. Accelerated Anode Rays.	F. W. Aston	1274
Nagaoka's Correction Factor K.	E. J. Hobbs	2146
Phosphorescence, <i>see</i> separate section.		
Photophoresis.	O. Halpern	1149
Planck's Law and the Light Quantum Hypothesis.	Bose	2812
Polarisation of Resonance Radiation.	G. Breit	2068
Positive Rays of Lithium, Spectrum due to Stoppage of.	M. Morand	1876
Poynting's Theorem and Ray Propagation in Optically Active Media.	H. Chipart	2066
Pressure of Radiation, New Measurement of.	A. Golsen	1440
Propagation of Light in Relativity Theory.	W. Gordon	223
Quanta and Waves.	L. de Broglie	236
" Are they Unidirectional?	G. Breit	508
" Einstein Light, Size of.	L. S. Ornstein and H. C. Burger	1450
" Light, and the Planck Law.	L. S. Ornstein and H. C. Burger	1451
" by L. S. Ornstein and H. C. Burger.	W. Pauli, Jr.	1452
" Diffraction and Interference.	L. de Broglie	257
" Tentative Theory of.	L. de Broglie	1156
" Theory of.	H. Bateman	255

For the Explanation of this Index see p. 1154.

Refraction of Light, continued.		Abstract Nos.
Benzene and Cyclohexane, Refractive Indices of.	J. W. Gifford and T. M. Lowry	236
Birefringence, Electromagnetic, of Active Bodies.	R. de Mallemaun	2717
Butyro and Immersion Refractometers.	J. W. Perry and C. C. Roberts	1125
Calcite and Aragonite, Refractive Indices of.	W. L. Bragg	1754
Camphor and Carvone, Electric Birefringence of.	R. de Mallemaun	1124
Celluloid, Double Refraction with.	A. Ramspeck	2715
Cosmical Refraction.	H. Kienle	1107
Courvoisier Effect and Einstein Effect.	A. Kopff	1400
Diffraction at Edge of a Black Screen, Theory of.	A. Rubinowicz	2475
Double Refraction.	H. Chipart	1151
" " in Crystals, Dispersion of.	C. Gaudetroy	828
" " in the Same Crystal, Variations of Dispersion of.	C. Gaudetroy	829
" " Refractive, Electric and Magnetic, of Suspensions.	S. Procopiu	1778
" " Magnetic, and Mesomorphic State.	L. Royer	1764
Films, Thin Opaque Metallic, Production of, and their Optical Properties.	F. Rother and K. Lauch	1123
Gases, Refraction in, see also separate section.		
" " Specific Refraction, of, below One Atmosphere.	V. Posejal	1118
Glass, Measurement of Refractive Index of Large Discs of.	J. Barot	1757
Gums, Refractive Index of, and Determining Refractive Indices.	A. Mallock	1119
Kerr Electro-optic Effect in Gases.	G. Szivessy	2719
Lenses, Objectives, and Prisms, see section Lenses.		
Liquid Mixtures, Volume and Refractive Power of.	L. Counson	453
Magnetic Double Refraction, Dispersion of.	G. Szivessy	483
Measurements, see separate section.		
Metal Films, Opaque, Optical Constants of.	K. Lauch	1755
" " Surfaces, Optical Behaviour of.	H. Schulz and H. Haemann	1406
Metallic Vapours, Determining Refractive Indices of.	H. G. Smith	56
Optical Refraction in Gases in the Spectral Region between 5782-2442 Å.U.	B. Quader	2033
Optically Active Substances.	R. Gans	2712
Penetration of Waves and their Rays into a gradually Varying Medium.	J. A. Wilcken	2505
Reflection of Plane Polarised Light by Etched Metals.	O. Jones	2733
Refracting Spherical Surface Cut by Perpendicular Axial Planes.	M. Sundquist	2035
Refraction, Cosmical.	H. Kienle	2457
" " Double, in Moving Liquids.	E. Krueger	2718
" " Mass, of Light and Molecules in the Light of the Atom Structure.	K. Fajans and G. Joos	2239
Refractive Index of Liquids by Means of a Microscope.	C. C. Kiplinger	2030
" " in an Electric Field, Isotropic Increase of.	Pauthenier	2238
" " Index of Water for Continuous Waves.	G. C. Southworth	2141
Refractivity and Atomic Sizes.	J. E. Calthrop	1407
" " and the Molecular Phase Hypothesis.	I. E. C. C. Baly and R. A. Morton	2716
" " produced by Ultra-Violet Light, Changes in.	H. G. Smith	1758
Refractometers, Range of Measurements with.	G. Haenzel	1756
Röntgen Rays, Refraction of, see section X-rays.		
Transparent Plates, Passage of Light through.	A. Schuster	2949
Wave Surface, Form of, after Refraction.	A. Whitwell	464
Relativity.		
Aberration of Light in Terms of the Theory of Relativity as illustrated on a Cone and a Pyramid.	V. Karapetoff	2928
Affine Field Theory, Non-symmetrical.	J. A. Schouten	1690
Axiomatics of the Theory of Relativity.	C. Carathéodory	1404
Cayleyan Distance and Theory of Relativity.	A. H. S. Gillson	1401
Clocks, Uniformity of Time and Testing of.	H. Hermann	1687
Cosmical Refraction.	H. Kienle	1107
"Cosmologic Problem, Contributions to," Einstein's Remarks on.	F. Seely	26
Cosmology, Stationary, in the Sense of Einstein's Gravitation Theory.	K. Lanczos	2013
For the Explanation of this Index see p. 1154.		

	Abstract Nos.
Relativity, continued.	
Courvoisier Effect and Einstein Effect. A. Kopff	1400
Dynamical and Kinematical Velocity in Einstein Relativity. P. A. M. Dirac	2205
Earth as Reference System for Light Rays. L. Silberstein	2672
Effective Function in Weyl's Physics. R. Weitzenböck	21
Einstein Data. C. Burali-Forti	434
Effects in Solar Spectrum. J. Evershed	433
Theory. P. Druaux	766
Einsteinian Deviation of Luminous Rays by the Sun. E. Esclançon	1083
Einstein's Equations and Symmetric Potentials. A. Palatini	427
Relativity and Mercury's Perihelion Anomaly. G. v. Gleich	33
Restricted Relativity Theory, Exposition of. F. Dacos	2927
Theory, Effects in. A. Bokowski	435
Ether Theory and Relativity Theory, Contradictions between. E. Gehrcke	768
General Theory of Relativity and the Affine Field. A. Einstein	222
Generalised Relativistic Quantum Conditions. O. W. Richardson	426
Geometrical Representation of the Special Theory of Relativity. P. Gruner	1403
Gravitation upon Light from the Standpoint of the Ether Theory. R. Hiecke	2444
Gravitational Displacement of Fraunhofer Lines. C. E. St. John	771
Infinite Potential and Stellar Velocity Equal to that of Light. E. Selety	34
Lorentz and Galilei Transformation. N. v. Raschevsky	428
Maxwell-Boltzmann Distribution Law in Relativity. E. Kretschmann	1689
Mechanism behind Relativity. W. Peddie	221
Michelson Experiment. N. v. Raschevsky	1699
Michelson's Experiment, Lorentz' Contraction and Relativity. E. Brylinski	1398
Optical Doublets and Triplets, Absolute Intervals of. A. Landé	2503
Physical Basis of Relativity. N. Spampinato	2010
Propagation of Light in Relativity Theory. W. Gordon	223
Relative Motion in Classical Mechanics. H. Zanstra	1695
Relativistic Dynamics Treated by Hamilton-Jacobi Method, Central Orbits in. G. Temple	2670
Motion of Rigid Solid. G. Lemaitre	2671
Relativity. K. Bohlin	2202
E. Persico	429
and Measurement of a Moving Rod by a Fixed Observer. A. Lampa	2926
in Classical Physics. P. Straneo	32
Röntgen Doublets, Nature of. A. Landé	2104
Theories, General, Geometrical Introduction to. G. Darmon	2009
Theory and Velocities > c. L. Ström	767
from the Mathematical-Physical Standpoint, Criticism of. G. v. Gleich	2445
Theory of the Universe, General Conditions of. Lémery	2673
Results of the American Einstein Expedition. J. Hopmann	803
Schott's Form of the Dynamics of Relativity. M. v. Laue	1402
de Sitter World. M. v. Laue and N. Sen	2011
de Sitter's Space-Time, Curvature of. L. Silberstein	1693
Space and Time. E. Persico	31
-Time, Curvature Invariant of. H. Weyl	2676
Radius of. L. Silberstein	1694
Infinity of, and Theory of Relativity. F. Selety	1698
"Velocity" in Relativity Theory. Lémery	2012
Weyl Theory, Effective Integral and Field Equations in. E. Reichenbacher	1691
Whitehead's Re-formulation of Data of Physical Science. G. W. de Tunzelman	1080
Theory of Relativity. G. Temple	1696
Resonance.	
Ferro-resonance, Jumping Phenomena in. Y. Watanabe	2345
Group Elements, Fifth, Spectra and Critical Potentials of. A. E. Ruark F. L. Mohler, P. D. Foote and R. L. Chenault	2762
Magnetite Crystal, Magnetostriction of. C. W. Heaps	2347
Resonance Curves observed in Potassium Vapour. R. C. Williamson	2571
Solution and Solubility.	
Aequil Solutions, Fluorescence of. (Miss) M. B. Kearney	2063
Ammonium Chloride, Action of, on Zinc. C. Drucker	684
Aqueous Solutions. A. Kling and A. Lassieur	339
Origin of Osmotic Effect. C. Gillet	340

For the Explanation of this Index see p. 1154.

Solution and Solubility, <i>continued</i> .		Abstract Nos.
Atmospheric Corrosion Research Committee. W. H. J. Vernon		2617
Brass, De-Zincification of. R. B. Abrams		1026
Brownian Movements, <i>see</i> section Molecular Physics.		
Coagulation of Negatively Charged Suspensoids, Influence of Anions on. J. N. Mukherjee and S. G. Chaudhuri		2176
Colloid Science and Technics. W. Ostwald		2358
Solutions, Formation of, by Electrical Pulverisation in the High-Frequency Alternating-Current Arc. E. O. Kraemer and T. Svedberg		3078
Colloidal Iron, Size of Granules of. L. Trier		689
Particles, Distribution of. E. F. Burton and J. E. Currie		1955
Sols, Protecting and Sensitising. E. K. Rideal		2612
Solutions. M. Mason and W. Weaver		1676
Elasticity of. A. Szegvari		2174
Specific Inductive Capacity of. J. Errera		346
Viscometry of. W. Ostwald		2606
Viscosity and Elasticity of. H. Freundlich and Emmy Schalek		2173
Suspensions, Distribution of Particles in. A. W. Porter and J. J. Hedges		345
Colloids and Precipitates, Electro-osmotic Experiments on the Reversal of the Electrical Charge of. J. N. Mukherjee and B. C. Roy		1970
Coagulation of. J. N. Mukherjee and S. K. Majumdar		2175
Colours of. B. Ray		2242
Mutual Precipitation of. R. Wintgen and H. Löwenthal		2172
New Method for taking out of Suspension		3081
Conductivity, <i>see</i> separate sections.		
Corrosion of Aluminium Alloys. D. Basch and M. F. Sayre		1606
of Iron in Water and in Neutral Salt Solutions. J. A. N. Friend ..		1025
of Stainless Steel and Iron, Resistance to. J. H. G. Monypenny ..		351
of Steel in Contact with Copper. W. G. Whitman and R. P. Russell ..		1952
of Zinc and Lead in Solutions of Inorganic Salts. J. N. Friend and J. S. Tidmus		2616
Tests on Certain Nickel Alloys. F. Orme		341
Electrolytic Theory of. W. D. Bancroft		3075
in a Water Gas-holder. F. H. Rhodes and E. B. Johnson		2851
Metallic Mechanism of. G. D. Bengough and J. M. Stuart		1024
Paradox in. U. R. Evans		2354
Resistance of Nickel Chrome Steel to. R. Stumper		160
Submerged, of Steel, Effect of Hydrogen-Ion Concentration on. W. G. Whitman, R. P. Russell and V. J. Altieri		2855
Dilution Law for Uni-Univalent Salts. B. Szyzkowski		1953
Double Layer, Electrical, Conception and Properties of, and its Relation to Ionic Migration. J. W. McBain		2870
"Dry Corrosion," So-called, of Metals, Mechanism of. U. R. Evans		342
Electrometric Study of the Hydrolysis of Salts. P. Job		2854
Emulsification, Theory of. P. Finkle, H. D. Draper and J. H. Hildebrand ..		1598
Emulsions, Oriented Wedge Theory of. W. D. Harkins and E. B. Keith ..		2357
Fluorescing Power, Decrease of. F. Perrin		2261
Free Energy of Dilution and Activity of Ions of Hydrogen Iodide in Aqueous Solution. J. N. Pearce and A. R. Fortsch		1323
Gelatinisation, Kinetics of. R. Reiger		3076
Gels of Acrolein, Variation of Insulating Power of, according to the Degree of Condensation. C. Moureu, C. Dufrasse, L. Tampier and Gailliot		3077
Heat of Formation of Salts and Electronic Theory. R. Audubert		2177
Heterogeneous Equilibria, Studies in. J. A. V. Butler		2625, 2626
Helium and Hydrogen, Solubility of, in Heated Silica Glass and its Permeability. G. A. Williams and J. B. Ferguson		1589
Hydrogen dissolved in Platinum, Condition of. K. Bennewitz and P. Günther ..		3073
Inter-Ionic Attraction Theory of Ionised Solutes. A. A. Noyes		2169
Part II, Testing the Theory		
Theory with Experimental Data. A. A. Noyes		2170
Iron, Electrolytic, Corrosion of. W. E. Hughes		707
Liesegang Rings. Effect of Light and Hydrogen-Ion Concentration on Formation of Colloidal Gold. Bands of Purple of Cassius. E. C. H. Davies ..		344

For the Explanation of this Index *see* p. 1184.

For the **Explanation** of this Index see p. 1154.

V.27
1924

Sound, continued.

Gramophone, Acoustic Problems of.	H. L. Porter	1520
Hearing, Theory of.	H. Hartridge	3012
	G. Wilkinson	2303
Hewlett Tone Generator, Amplitudes of.	C. E. Lane	298
High-frequency Vibrations and Young's Modulus for Metal.	R. J. Lang	121
Horns, Conical, Effect of, on Intensity of Sound.	J. H. Cloud	581
Lissajous' Whistling Flame.	E. G. Richardson	293
Location, Binaural, of Complex Sounds.	R. V. L. Hartley and T. C. Fry	1245
Loud-Speaker and Auditorium Acoustics.	G. A. Sutherland	1521
Speakers, Importance of Audible Spectrum-Measurements on.	E. K. Sandeman	1522
Masking of Tones and the Inner Ear.	R. L. Wegel and C. E. Lane	1858
Measurement of Sound Intensity.	J. C. Karcher	295
of Sound, Physiological.	A. Stefanini	1242
Membrane, Resonating, Action of Sound-Waves on.	E. Meyer	914
Phonetic Energy, Distribution of.	Crandall and Mackenzie	875n
Phonograph-Horns, Wood Vanes in.	W. R. Barss, J. A. Abbott and H. M. Chatto	1246
Pianoforte, Acoustics of.	S. K. Datta	921
Pipes, Blown, Production of Tone in.	P. Cermak	1861
Pitch of a Musical Tone, Physical Criterion for.	H. Fletcher	1860
Powers, Acoustical, in Absolute Units.	P. E. Sabine	915
Pressure, Acoustic, Telephonic Excitation of.	C. Barus	1856
Pulsation of Tones and Aural Fatigue.	Mollie Weinberg and F. Allen	917
Critical Frequency of.	F. Allen	1855
Quill Tubes, Spark-blown Closed, Vibration in.	C. Barus	916
Vibration of Air in: Telephonic Exciter.	C. Barus	582
Radiation Pressure and Adiabatic Invariance, Dynamical Illustrations of.	T. H. Havelock	2005
Recording Sound Waves, Simple Device for.	C. J. Lapp	296
Sensitive Flames and Apparent Pressure.	C. Barus	3011
Singing Flame, Theory of.	E. G. Richardson	122
Sound Spectra.	H. Fletcher	1860
Transition.	L. Gazeaud	3013
Transmission.	Rothé, Lacoste, Bois, (Miss) Dammann and (Mrs.) Hée	3014
Velocity and Height.	W. J. Humphreys	2558
Speech and Hearing, Physics of.	R. L. Jones	1523
and Music, Frequency Components of.	K. W. Wagner	2557
Speed of Sound in N_2O_4 .	E. Grüneisen and E. Goens	123
Speeds of Sound in Gases and Vapours and Ratios of Specific Heats.	H. B. Dixon and G. Greenwood	1529
String, Struck, Delemer and Lamb Theories of.	W. H. George	2561
Helmholtz Theories of.	W. H. George	1527, 2560
Thermal Equilibrium between Light Waves and Sound Waves.	E. Schrödinger	2069
Tuning-Forks.	C. C. Mason	1853
Electrically Maintained.	D. W. Dye	3009
Some Factors affecting Frequency.	A. B. Wood	3010
Forks, Large, Overtones of.	S. H. Anderson	297
Velocity of Sound in Free Air.	A. McAdie	912
in Moist Air.	W. R. Barss and J. B. Bastille	913
Vibration (Acoustic) Figures of Rolled Plates after Recrystallisation, Alteration of.	E. Schröder and G. Tamman	2363
Vibrations, see also section Elasticity.	I. B. Crandall and C. F. Sack	2556
Vowel Sounds, Dynamical Study of.	E. Esclanton	2302
Zones of Silence.	E. Esclanton	2302
Specific Heat and Latent Heat.		
Air, Specific Heats of (0° to 200° and -80° to 250°).	M. Jakob	569
Aqueous Solutions of Hydrochloric Acid and Ammonia at Different Temperatures, Heat Capacity of.	M. Wzowsky and A. Kaigorodoff	2990
Atomic Heat of Silver at High Temperatures.	A. Magnus and A. Hodler	2507
Carbon, Heat of Vaporisation of.	de Forcrand	2540
Chemical Constants of Diatomic Gases.	J. R. Partington	164

For the Explanation of this Index see p. 1154.

Abstract Nos.

Specific Heat and Latent Heat, <i>continued.</i>		Abstract Nos.
Corresponding Temperatures for Solid Bodies, A. Brodsky	2994	
Energy conveyed by a Flowing Gas, S. Weber	2547	
Heat given off by Radium Bromide, Small Variations of, J. H. le Bel	2808	
of Vaporisation a Function of the Temperature, M. M. Green	1513	
and the Pressure of Saturated Vapour at Very Low Temperatures, A. Brandt	1224	
Heats of Solution, Calorimeter for the Electric Adiabatic Determination of, E. Cohen, A. L. T. Moesveld and W. D. Helderman	2998	
of Vaporisation of Mercury and Cadmium, M. F. Fogler with W. H. Rodebush	290	
Internal Heat of Vaporisation, Relations Concerning, J. E. Mills and P. K. Smith	115	
Inversion Temperatures of Air, O. Knoblauch	741	
Iron and Steel, Specific and Latent Heats of, A. Mallock	1215	
Latent Heat of Nitric Oxide, H. Goldschmidt	904	
of Sulphuric Acid, J. S. Thomas and A. G. Ramsay	1898	
Heats of Vaporisation of Liquids at High Pressures. (Water, Chloroform, Benzene, Carbon Bisulphide, Carbon Tetrachloride, Ethylether and Acetone), W. H. McAdams and J. C. Morrell	1846	
Lead Peroxide, Reguline, Properties of, W. Palmaer	635	
Liquids of High Boiling-Points, Apparatus for Heat of Evaporation of, J. H. Awbery and E. Griffiths	2539	
Nickel, Thermomagnetic Phenomenon and Specific Heat of, P. Weiss, and R. Forrer	1934	
Paraffin Hydrocarbons, Properties of, R. E. Wilson and W. H. Bahlke	1508	
Radiation Theory and Specific Heats by E. Császár, E. Schrödinger	2544	
Reaction Heats at High Temperatures, Calorimeter for Measurement of, J. D. Davis	2997	
Rotational Specific Heat and Half-Quantum Numbers, R. C. Tolman	758	
Salt Solutions, True Specific Heats of, E. Cohen, W. D. Helderman and A. L. T. Moesveld	2995	
Saturation-Vapour Concentration of Liquids, Influence of Indifferent Gases on, F. Pollitzer and E. Strebel	2545	
Specific Heat and Heat of Mixture in Neighbourhood of the Critical State of Miscibility, N. Perrakis	1219	
Heat C_p of Gases by the Differential Method, M. Trautz and K. Hebbel	2290	
Heat C_p , Internal Energy U , and the Equation of State of a Body, W. Jazyna	2291	
Heat of Ferromagnetic Substances and the Critical Temperature, J. R. Ashworth	1297	
Heat of Hydrogen, Theory of Temperature Variation of, E. C. Kemble and J. H. van Vleck	292	
Heat, Rotational, and Entropy of Diatomic Gases, R. C. Tolman and R. M. Badger	910	
Heats at Low Temperatures, F. Lange	2802	
of Certain Organic Liquids, Irregularities in, J. W. Williams and F. Daniels	2801	
Heats of Magnesium, Calcium, Zinc, Aluminium and Silver at High Temperatures, E. D. Eastman, A. M. Williams and T. F. Young	2126	
Heats of Nitrogen and of Oxygen, Ratio of, J. R. Partington and A. B. Howe	1221	
Heats, at Constant Volume, of a Liquid and its Vapour, A. Brandt	1220	
Steam, Specific Heat of, H. L. Callendar	2292	
Temperature, Effect of, on Properties of Metals, A. Mallock	1835	
Theory of Specific Heats, E. Császár	568	
Thermal Energy of Electrons in Metals, E. D. Eastman, A. M. Williams and T. F. Young	2128	
Thermodynamical Properties of Water, Coordination of, A. Lartigue	12813	
Trouton's Formula and van der Waals' Equation, A. Brandt	1231	
Law of Latent Heat and Quantum Theory, Revised Form of, A. Byk	2803	
Vapour Tension Equation at Low Temperatures, V. Fischer	2297	
Water-Vapour computed on Basis of its Specific Heat, O. Knoblauch, E. Raich and H. Hausen	114	

For the Explanation of this Index see p. 1184.

Spectra, see also Molecular Physics.	
Absorption and Emission Spectra of Tungsten. C. B. Croft	2279
Lines in a Rarefied Gas, Width of. J. Q. Stewart	1464
Weak, Method for. W. Schütz	844
of Lithium Vapour. A. L. Narayan and D. Gunnayya	2845
Spectra and Molecular Phases. R. A. Morton and H. Barnes	509
Spectra in Vapours and Molecule-Structure. V. Henri	837
of Mixed Metallic Vapours. S. Barratt	1167
of Some Metallic Vapours (Copper, Silver, Gallium, Lead, Zinc, Bismuth, Antimony, Manganese). W. Grotrian	848
Spectra of Vanadium, Titanium and Scandium. H. Gieseler and W. Grotrian	2884
Spectra, Infra-red, of Organic Bodies. J. Lecomte	2082
Compounds. J. Lecomte	2081
Spectrum of Bromine. P. Bovis	2508
Algal System, Spectrographic Study of. D. B. McLaughlin	2943
Alkali Metals, Spectra of. H. Bartels	1166
Vapours, Mixed, Emission Spectra of. F. H. Newman	2777
Aluminium Ultra-Violet Spectrum. R. O. Hutchinson	1463
Ammonia Gas, Ultra-Violet Absorption Spectrum of. Ferrières	1172
Antimony, Thallium, Lead and Bismuth, Ultra-Violet Spectra of. L. and E. Bloch	1174
Arc <i>in vacuo</i> Suitable for Spectra of Metals in Small Quantities. B. Perrette	502
Spectra of Metals in Various Media and <i>in vacuo</i> . S. Procopiu	1793
Width of Lines in. S. Procopiu	2976
Persistent, in Vacuum, Striking Potential necessary to Produce. F. Simeon	306
Argon and Potassium, Ionised, Spectral Lines of. H. W. J. Dik and P. Zeeman	852
On Certain Spectra, Effect of. R. C. Johnson and W. H. B. Cameron	2968
Krypton, and Xenon, Spectra of. L. and E. Bloch and G. Déjardin	1471
G. Déjardin	1796
Atomic Radii and Spectral Terms. F. Hund	1687
Balmer Absorption Series of Hydrogen. E. O. Hulburt	2089
Lines, Doublet Separation of. G. M. Shrum	1460
Band Spectra. H. Deslandres	2761
R. Fortrat	2077
and Isotope Effect. R. S. Mulliken	1462
due to Molecular Interaction, Variations in. M. Toussaint	506
of Oxide and Chloride of Silicon, and of Chlorides of Carbon, Boron and Aluminium. W. Jevons	2764
Spectra, Quantum Theory of	2499
Theory of. A. Kratzer	2500
P. Tartakowsky	2078
Benzene, Absorption Spectra of Solutions of. J. E. Purvis	518
Beryllium Ultra-Violet Spectrum. R. A. Millikan and I. S. Bowen	1466
Bismuth. A. E. Ruark, F. L. Mohler, P. D. Foote, and R. L. Chenault	849
and Mercury, Isotopes of, revealed in the Satellites of their Spectral Lines. H. Nagaoka, Y. Sugita and T. Mishima	1807
Antimony, Lead and Thallium, Ultra-Violet Spectra of. L. and E. Bloch	1174
Bohr Theory applied to Na, Md and Al. R. A. Millikan and I. S. Bowen	1466
Bohr's Theory of Spectra, Numerical Applications of. D. R. Hartree	760
Boron 111, Series Spectra of. I. S. Bowen and R. A. Millikan	2087
Cesium Vapour, Ionisation of and Mobility of Electrons in the Bunsen Flame. B. T. Barnes	2570
Spark Spectrum of. L. A. Sommer	2969
Calcium Atom, Excited, Astrophysical Determination of. E. A. Milne	1726
Vacuum Spark Spectrum of. J. A. Anderson	1472
Canal Rays, Spectra of Hydrogen and Oxygen affected by. W. Wien	606
Carbon Arc Spectrum in the Extreme Ultra-Violet. F. Simeon	519
Extreme Ultra-Violet Spectrum of. W. W. Shaver	1797
(CII), Ionised, Series Spectrum of. A. Fowler	1473
Monoxide, Infra-red Absorption Spectrum of. E. F. Lowry	2088
Ultra-Violet spectrum. R. O. Hutchinson	1463
Changes in Spectral Lines. C. Fichtbauer, G. Joos and O. Dinkelacker	80

For the Explanation of this Index see p. 1164.

<i>Spectra (see also Molecular Physics), continued.</i>	
(C + H) Bands, Terms of. A. Kratzer	2086
Celtium, Arc Spectrum of. J. Bardet	87
Chemical Affinity and Infra-red Spectra. A. Balandin	2746
Chemiluminescence. A. Petrikala	1597
Chlorine, Ultra-Violet Line Spectrum of. E. v. Angerer	1798
Chromium and Iron Vapours, Absorption Spectra of. H. Gieseler and W. Grotrian	1474
" Arc Spectrum of. H. Gieseler	1475
" Ultra-Violet Spectrum of. A. B. McLay	1799
Chromosphere of Resonance Lines, Height in. F. Croze	1165
Components of H ₂ , Intensity Distribution of. E. Gehrcke, E. Lau	2751
Copper in Aluminium, Ultra-Violet Arc Spectrum of. X. Waché	85
" Band Spectrum of. R. Frerichs	853
" Relations in Band Spectra of. E. Bengtsson	854
Correspondence Considerations. W. Lenz	2502
Critical Electron Energies in Hydrogen. F. Horton and Ann C. Davies	313
Crossed Michelson Gratings. Rita Brunetti	830
Crystal Analysis and X-ray, Rotating Crystal Method of. M. Polányi, E. Schiebold and K. Weissenberg	2110
Cyanogen Band, 3883 Å., Origin of. E. Freundlich and E. Hocheim	2775
Didymium, Absorption Spectra of Salts of. J. E. Purvis	524
Diffraction Image of Two Close Luminous Lines of Finite Width. B. E. Mourashkinsky	2254
Dispersion, Law of, and Bohr's Theory of Spectra. H. A. Kramers	2074
Doublet Separation in the Balmer Series. A. E. M. Geddes	2075
Dyes, Absorption Spectra of. W. C. Holmes	1468
Einstein Shift of Spectral Lines, <i>see also</i> section Astronomy.	
Excitation Tensions of Neon and Argon and their Spectra of these Gases. G. Hertz	601
Excited Atoms, Chemical and Spectroscopic Properties of, and Reversible Effects of Electron Impacts in Gases. K. T. Compton	507
Fifth-Group Metals, Spectra of. A. E. Ruark, F. L. Mohler, P. D. Foote and R. L. Chenault	849
Fluorescence and Absorption Spectra of Alkalies. J. C. McLennan and D. S. Ainslie	84
" Spectra of Phenol and Phenolic Ether Vapours. J. K. Marsh	1168
" Part I, Benzenoid Hydrocarbon Vapours (Benzene, Toluene, Ethylbenzene, Oxylene, Mesitylene, Styrene and Phenylacetylene. J. K. Marsh	846
" Spectrophotometric Definition of Colours of. H. George and E. Bayle	2268
Fluorescent Rhodamin B, Optical Properties of. A. Poritsky	2264
Fluorine, Line and Band Spectrum of. H. G. Gale and G. S. Monk	1476
Fraunhofer Lines, Red Displacements of. W. H. Julius	2757
Furfural, Ultra-Violet Absorption Spectrum of. F. H. Getman	1800
Gelatin, Absorption Spectrum of. H. P. Higley and J. H. Mathews	1801
Giant Stars, Behaviour of Hydrogen Lines in. K. T. Compton and H. N. Russell	2767
Glow Discharge, Transverse Magnet Field at Cathode of. A. Günther-Schulze	2137
Grating Fringes. V. Ronchi	2253
Gratings, Optical, Illustration of Theory of. A. L. McAnuly	1776
Gravitational Displacement of Fraunhofer Lines. C. E. St. John	771
Group Elements, Fifth, Spectra and Critical Potentials of. A. E. Ruark, F. L. Mohler, P. D. Foote and R. L. Chenault	2762
Hafnium, Optical Spectrum of. H. M. Hansen and S. Werner	268
Halogen Halides, Absorption Spectra of. H. Bell	1169
Halogens Platinates, Absorption Spectra of. H. I. Schlesinger and M. W. Tapley	1179
Heat-Equilibrium in Radiation Field in Presence of Matter. S. N. Bose and A. Einstein	2752
Helium and Lithium Ultra-Violet Spectrum. R. A. Millikan and I. S. Bowen	1466
" Band-Spectrum, Combinations and Terms in. A. Kratzer	86
" in the Extreme Ultra-Violet, Spectrum of. T. Lyman	2975
" Spectrum by Electronic Bombardment. A. Udden and J. C. Jacobsen	1789
" Tube, Changes in. A. F. Miller	520
For the Explanation of this Index see p. 1154.	

Spectra (see also Molecular Physics), continued.	
Iron Spectrum, Symmetrical Series in. A. Hagenbach and H. Schumacher	92
Regularities in Arc Spectrum of. F. M. Walters, Jr.	1480
Spectral Lines of. H. Nagaoka and Y. Sugiura	93
Isotopes, Spectra of. H. Nagaoka and Y. Sugiura	1785
Ketones and Aldehydes, Absorption Spectra of. J. E. Purvis	503
Krypton, Xenon and Argon, Spectra of. G. Déjardin	1796
Lead, Bismuth, Antimony and Thallium, Ultra-Violet Spectra of. L. and E. Bloch	1471
E. Bloch	1174
Mercury, Thallium, Magnesium. Arc Light Spectra of. B. E. Moore	521
Lithium and Helium Ultra-Violet Spectrum. R. A. Millikan and I. S. Bowen	1466
Spectrum, Spark Line in. F. L. Mohler	1175
New Spectra emitted by Neutral Atom of. M. Morand	2273
Spark Spectra of. E. v. Angerer	260
Luminescence of Nitrogen, Argon and other Condensed Gases at Very Low Temperatures. J. C. McLennan and G. M. Shrum	2771
Luminous Impact, Illumination during Recombination, and Excitation Function. R. Seeliger	1445
Magnetic Field, Effect of, upon Electric Discharge. A. Pontremoli	608
Mass-Spectrograph, Recent Results obtained with. F. W. Aston	2603
Mercury and Bismuth, Isotopes of, revealed in the Satellites of their Spectral Lines. H. Nagaoka, Y. Sugiura and T. Mishima	1807
Arc Spectrum, Distribution of Energy in. G. Athanasia	2765
Atoms, Estimation of Average Life of. L. A. Turner	1449
Band Spectrum. K. T. Compton and L. A. Turner	2766
below Ionisation Potential, Spectrum of. J. A. Eldridge	2272
Radiation 5461 Å, Analysis of Component of. Rita Brunetti	1482
Vapour, Luminous, Selective Absorption by. E. P. Metcalfe and B. Venkatesachar	2091
Cadmium, Helium and Oxygen, Effect of Metallic Surfaces on Spectra of. L. Janicki and E. Lau	94
Higher Spark-Spectra of. L. and E. Bloch	851
Iodine Spectrum and Band Spectrum of. W. Gerlach	850
Series of Triplets in Arc Spectrum of. H. Buisson	1806
Spectral Lines of. G. Hertz	1457
Molecular Spectra and Half-Quanta. E. F. Barker	836
Molybdenum Arc Spectrum, Series in. C. C. Kiess	272
Multiple Lines. L. S. Ornstein and H. C. Burger	2070
Multiplets of Higher Degree, Structure of. A. Landé and W. Heisenberg	2666
Theory of, and their Zeeman Effect. A. Sommerfeld	1180
Naphthalene-Vapour, Absorption Spectrum of, and Structure of the Naphthalene-Molecule. V. Henri and H. de László	2774
Vapour, Ultra-Violet Absorption Spectrum of. V. Henri and H. de László	2092
Naphthol Derivatives, Ultra-Violet Absorption Spectra of. S. Komatsu	2970
B. Masumoto and S. Kumamoto	1808
Neon Spectrum, Lyman Lines in. K. W. Meissner	97
Structure of. A. Landé	1457
Spectral Lines of. G. Hertz	1177
Nitrogen Band Spectrum, Alterations in. W. Steubing and M. Toussaint	2271
Mass of the Particles which Emit Various Band Spectra attributed to. M. Duffieux	1176
Oxygen and Fluorine Lines, Fine Structure of, in Extreme Ultra-Violet. I. S. Bowen and R. A. Millikan	2772
Second Positive Band of. R. Mecke and P. Lindau	2274
Structure of Second Positive Group of. P. Lindau	2773, 2965
Organic Compounds, Emission Spectrum of. W. H. McVicker, J. K. Marsh and A. W. Stewart	2276
Origin of Spectra. J. C. McLennan	264
Oan, Application of, to Series Grouping. W. M. Hicks	2750
Oxygen and Sulphur, Series Spectra in. J. J. Hopfield	525
in the Magnetic Field, Modification of the Band 3064 of. R. Fortrat	1780
Origin of Certain Lines Attributed to. W. Jevons	1178
Series Spectra of, in Region 1900-11400. J. J. Hopfield	1461

For the Explanation of this index see p. 1154

<i>Spectra (see also Molecular Physics), continued.</i>	
Phenol and Phenolic Ether Vapours, Fluorescence Spectra of. J. K. Marsh	1168
Phosphorus, Arc Spectrum of. M. O. Saltmarsh	2094
Photoluminescence of Flames. E. L. Nichols and H. L. Howes	486, 1448
Potassium and Argon, Ionised, Spectral Lines of. H. W. J. Dik and P. Zeeman	852
Vapour, Absorption of. A. L. Narayan and D. Gunnayya	1483
Ionised, and Argon, Spectra of. P. Zeeman and H. W. J. Dik	95
Precision Apparatus for X-ray Measurement. S. K. Allison and G. L. Clark	2112
Quantum Numbers and Intensities of Multiple Lines. H. C. Burger and H. B. Dorgelo	1435
Optics. G. Wentzel	1435
Radiation of Iodine Bands, Processes during. O. Oldenberg	2498
"Raies Ultimes" and Resonance Lines, Relations between. F. Croze	841
in the Arc. S. Procopiu	2076
Rare Earths, Spectra of. J. M. Eder	96
Elements, Application of Spectrographic Analysis to Examination of. C. Porlezza and A. Donati	2509
Resonance Radiation Sodium, Polarisation of, in Magnetic Fields. E. Gaviola and P. Pringsheim	2497
Reversed Spectrum and Spectrum-Analysis. A. Kirschmann	1791
Röntgen Rays, <i>see</i> section X-Rays.	
Rydberg's Formula and Deviating Types of Series. G. Wentzel	512
Schwarzschild Constant, Determination of. J. K. Robertson	842
Secondary Wave-length Standards. P. Wallerath	2957
Selective Absorption by Luminous Mercury Vapour. E. P. Metcalfe and B. Venkatesachar	2091
Series-Spectra. G. Wentzel	2269
Involving more than One Electron. G. Wentzel	275
Silicon Tetrafluoride, Fresh Regularities in Spectrum of. C. Porlezza	2515
Arc Spectrum of. C. Porlezza	2514
Stellar Temperatures and Absorption Lines of. C. H. Payne	1809
Sodium Ultra-Violet Spectrum. R. A. Millikan and I. S. Bowen	1466
Vacuum Arc, Spectrum of. H. Bartels	2516
Solar Radiation Measurements in Various Spectral Regions. C. Dorno, K. W. Meissner and W. Vahle	2961
Radiations in the Remote Ultra-Violet. P. Lambert, G. Déjardin and D. Chalonge	510
Spectrum. A. H. Compton	534
<i>see also</i> section Astronomy.	
3883 Cyanogen Band in. R. T. Birge	1467
Ultra-Violet End of. R. Dietzium	845
Solid Nitrogen, Luminous Spectra of. L. Vegard	2778
Solidified Gases, Luminescence of. L. Vegard	2776
Spark Apparatus. C. Leiss	2038
Circuits, Specification of. J. A. Anderson	1472
Spectra in Chemical Analysis. C. A. v. Welsbach	83
in Liquid Non-Metals. M. Curie	505
Spectrum, Excitation of. E. Rupp	937
Spectra and Sizes of Alkali Metal Atoms. L. A. Turner	417
of the Lighter Elements	1164
of Zinc and Calcium. R. E. Harris	2275
Arc, according to Bohr's Theory, Quantum Assignment for. F. S. Brackett and R. T. Birge	1385
Celestial, Absorption Bands in. F. E. Baxandall	2467
Spectral Intensities, Supplied Energy and Alterations in Different Media, Relations between. L. Hamburger	2064
Lines, Broadening of. J. Holtsmark	1458
Damping of, and Duration of Light from Atoms. W. Wien	1784
Electrical Decomposition of. A. Carrelli	840
Excitation of, by Electronic Collision. I. G. Hertz	1457
Repeated, Intensity of. H. B. Dorgelo	1454
Series of Divalent Elements. R. T. Birge	1459
Transmission, Measurements of. I. G. Priest, H. J. McNicholas and M. Katherine Frehafer	1434
Spectrometer, New Tri-Colour Mixing. F. Allen	2045
Spectroscopic Apparatus, <i>see</i> section Apparatus.	

For the Explanation of this Index *see* p. 1184.

Spectra (<i>see also</i> Molecular Physics), <i>continued</i> .	
Spectroscopic Illumination with End-on Vacuum Tubes. T. R. Merton and R. C. Johnson	262
Spectroscopy, Modern, Some Aspects of. F. A. Saunders	1162
Spectrum of γ Cassiopeiae, H β to B	2468
of Metallic Spark in Water, Absorption Lines in. E. O. Hulburt	2517
Standards for Short Wave-lengths. S. K. Mitra	81
Stark-Effect, <i>see</i> section Zeeman-Effect.	
Stellar Atmospheres, Ionisation in. Cecilia H. Payne	2501
Energy Spectra, Radiometer Measurements of. C. G. Abbot	2944
Spectra, <i>see</i> section Astronomy.	
Structure of the K β Line of Sulphur. A. E. Lindh and O. Lundquist	2109
Sun's Limb, Spectrum of. W. H. Julius and M. Minnaert	511
Terbium, Arc Spectrum of, and a New Element of the Terbium Group. J. M. Eder	271
Tertiary Line Spectra in X-rays. D. L. Webster	2101
Thallium, Antimony, Lead and Bismuth, Ultra-Violet Spectra of. L. and E. Bloch	1174
Spectra of. F. L. Mohler and A. E. Ruark	523
Spectral Lines of. G. Hertz	1457
Thermionic Discharge, Spectrum of. A. E. Ruark, F. L. Mohler, P. D. Foote and R. L. Chenault	849
Thermoluminescence Spectra. C. S. Beals	1787
Tin and Zinc Spark Spectra in the Schumann Region. L. and E. Bloch	855
Titanium, Arc Spectrum of. C. C. Kiess and H. K. Kiess	2095
Furnace Spectrum of, in the Ultra-Violet. A. S. King	1484
Regularities in Arc Spectrum of. C. C. Kiess and Harriet K. Kiess	270
Ultra-Red Oscillations of Salts containing Sulphur. V. J. Sihvonen	487
Ultra-Violet Absorption Spectra. W. Gross	1465
Oxygen Emission Bands. R. C. Johnson	2769
Spectra, Extreme. R. A. Millikan and I. S. Bowen	1466
Extreme, Arc and Spark Spectra in. R. O. Hutchinson	1463
Spectrographic Methods for. J. Duclaux and P. Jeantet	1792
Vanadium Lines in Multiplets, Arrangement of. O. Laporte	857
Multiplets and Zeeman Effect. W. F. Meggers	2504
Regularities in Arc Spectrum of. W. F. Meggers	856
Wave-length from the Standard Arc, Standards of. W. F. Meggers, C. C. Kiess and K. Burns	1803
Standards in the Ultra-Violet. J. J. Hopfield and S. W. Leisner	263
Width of Spectral Lines. G. Breit	274
Yellow Helium Line 5876A, Fine Structure of. L. S. Ornstein and H. C. Burger	2510
Xenon, Krypton and Argon, Spectra of. L. and E. Bloch and G. Déjardin	1471
G. Déjardin	1796
X-Ray Absorption Spectra of Potassium and Calcium. A. E. Lindh	2107
Investigations with Amalgams. C. v. Simson	2111
L-Absorption Spectrum of Iodine. J. G. Tandberg	2108
Spectra. A. Dauvillier	2106
<i>see</i> section X-Rays.	
Zeeman-Effect, <i>see</i> separate section.	
Zinc and Tin Spark Spectra in the Schumann Region. L. and E. Bloch	855
Spectrum and Vacuum Grating Spectrograph. R. W. Wood	527
Ultra-Violet Spectrum. R. O. Hutchinson	1463
Static and Atmospheric Electricity (<i>see also</i> sections Discharge and Radio-Activity).	
Adsorption Forces and their Electrical Nature. B. Ilin	2848
Air and Hydrogen, Ionic Mobilities in. J. J. Nolan	598
in a Cellar, Registration of Conductivity of. W. Schlenck	590
Analytical Treatment of the Problems of Electrostatics. K. Hillebrand	1250
Atmosphere, Electrical Phenomena in, and the Protection of Buildings against Lightning. U. Bordini	982a
Numbers of Ions in. S. Wiedenhoff	2311
Relations between Magnetism and State of. A. Nodan	2022
Atmospheric Electricity. S. J. Manchly	2131
Data. H. Markgraf	2312
For the Explanation of this Index <i>see</i> p. 1154.	

Static and Atmospheric Electricity (see also sections Discharge and Radio-Activity), continued.	
Atmospheric Electricity, Variation of Potential Gradient of.	S. J. Manichy 591
Braking of Moving Charges by Passage over Conducting Bodies.	W. F. 302
Capacity Machines.	F. Ollendorff 126
Electricity of Solid Dielectrics.	H. F. Richards 589
..... see also section Batteries, Primary.	
Contact P.D. between Metals Glowing in vacuo.	R. Vieweg 2310
Coulomb's Law from Maxwell's Tensions, Derivation of.	G. Siemens 3022
Discharge, Atmospheric, of Globular Form.	G. F. Vandepierre 1864
Electric Field of the Electrolytic Cell.	A. A. Ahmed 1530
Figures.	Elisabeth Kara-Michailova 303
Electrical Alternating Fields, Measurement of.	N. Semenov and A. Walther 587
Electrification by Pulverisation of Aqueous Solutions.	J. J. Nolan and H. V. Gill 127
Electrometer with Triode Valve and Atmospheric Gradient.	P. Lejay 1921
Electrostatic Fields of Gauzes and Diaphragms.	A. Walther and Lydia Inge 924
..... Exploration of.	N. Semenov and A. Walther 124
Influence and Electromagnetic Machines, Analogy between.	F. Ollendorff 1249
..... Electrostatic Generator, Quantitative Theory of.	A. W. Simon 2821
Ions in Air, Effect of Vapours upon Mobility of.	Maria Béla 316
Large, in Air, Experiments on.	J. J. Nolan and J. Enright 596
..... in Atmosphere, Potential Gradient and Number of.	J. J. Nolan 1863
Natural, in Air, Recombination of.	A. D. Power 132
Negative, in Air, Absolute Mobilities of.	L. B. Loeb 597
Lines of Electric Force.	G. L. Addenbrooke on behalf of E. E. Brooks 588
Normal Atmospheric Electricity, Perturbations of.	H. Markgraf 2214
Potential Distribution between Parallel Plane Electrodes.	T. C. Fry 1549
Specific Inductive Capacities of Ceramic Materials.	A. Burmester 2338
Stream Lines in the Two-Dimensional Motion of a Perfect Fluid, Electrical Method for Tracing.	E. F. Relf 2823
Two-Dimensional Electrostatics, Problems of.	D. M. Winch 3021
Volta Effect.	E. Perucca 962
Surface Tension.	
Capillarity between Water and Vaseline Oil.	R. Dubrisay and P. Picard 383
Capillary Constant.	I. I. Tichanowsky 2412
Density and Surface Tension, Relation between.	A. Ferguson 729
Determination of Surface Tension from Bubbles.	S. Sugden 1339
Drops, Fall of, in Viscous Media, see section Viscosity.	
Films on Water, Mono-Molecular, Properties of.	P. Woog 740
..... Liquid, Structure and Disintegration of.	W. Taylor, M. Brillouin 1664
Gelatin Solutions, Surface Tension of.	C. E. Davis, H. M. Salisbury and M. T. Harvey 1337
Glasses, Soda-Lime-Silica, at High Temperatures, Viscosities and Surface Tensions of.	E. W. Washburn, G. R. Shelton and E. E. Libman 2893
Interfacial Tension Equilibria in Flotation.	W. H. Coghill and C. O. Anderson 722
Iron Sulphide, Surface Tension of.	E. J. L. Holman 183
Mercury, Superficial Tension and Voltaic Properties of.	E. Perucca 166
Paraffin Wax and Water, Angle of Contact between.	R. Ablett 184
..... A. Ferguson 721	
Protective Apparatus for Alternating-Current Circuits.	A. S. FitzGerald 1179n
"Superficial Solutions," Compression and Expansion of.	A. Marcelin 186
Surface Molecules and Surface-Tension, Orientation of.	S. Sugden 2390
..... Tension and Density, Relation between.	D. B. Macleod 190
..... by Capillary Balance, Measurements of.	P. Lenard, with R. V. Dallwitz-Wegner and E. Zachmann 2413
..... Tension in a Magnetic Field.	Winifred L. Rolton and R. S. Troop 1652
..... of a Small Quantity of Liquid.	A. Ferguson 728
..... of Colloidal Solutions and Dimensions of Certain Organic Molecules.	P. L. du Nouy 2852
..... Tension, Density and Chemical Constitution.	S. Sugden 2391
Thermodynamical Properties of Water, Co-ordination of.	A. Lartigue 2813
Water and Organic Liquid, Surface Tension between.	R. Dubrisay and P. Picard 1340

Temperature.		Abstract Nos.
Heating Electrically in <i>vacuo</i> to a High Temperature.	P. Lebeau and M. Picon	2396
High-Temperature Scales, Intercomparison of.	W. E. Forsythe	1506
Temperatures, Determination of.	F. Henning	2285
Opaque Diffusively Reflecting Bodies, Temperature of.	M. Pirani	2284
Pyrometers, Thermoelectric.	C. Bacchini	1574
Temperature Measurements by Thermoelectric Junctions.	J. Würschmidt	2800
Scale in Theory and Practice.	F. Henning	2993
Platinum.	F. Henning and W. House	1838
Scales, <i>see also</i> section Thermometry.		
Critical, in Condensation of Metal-Vapours.	J. Chariton and N. Semenov	2550
Temperatures, High and Low.		
Air, Liquefaction and Rectification of.	L. D. Goldsmith	2814
Dewar Flasks.	J. C. McLennan and G. M. Shrum	1842
Dilatometer, Double-Mirror, for Low-Temperature Work.	G. Borelius and C. H. Johansson	2797
High Temperatures, Chemistry of.	H. v. Wartenberg	3001
Liquefaction of Hydrogen.	W. Meissner	570
and Helium.	J. C. McLennan and G. M. Shrum	1842
Measurements, <i>see</i> separate section.		
Oxides, Metals, and Carbides at High Temperatures.	O. Ruff	3002
Zirconium, Melting Point of.	H. S. Cooper	1637
Terrestrial Magnetism and Electricity.		
Air-Earth Currents and Others.	F. Sanford	1253
Atmospheric-Electric Currents and their Relation to the Growth of Plants.	V. H. Blackman	3028
Electric Observations during Total Solar Eclipse.	H. F. Johnston	1533
Electricity, <i>see</i> section Static Electricity.		
Ionisation.	A. Gockel	1252
Atmospheres and Meteorological Conditions.	R. Bureau and A. Vaut	3030
Phenomena, Relations between.	R. Bureau	3029
Aurora, Sunspots, and Magnetic Variations during 1921.	W. E. W. Jackson	778
Austria in 1918, Magnetic Survey of.	A. Schedler	1302
Austrian Magnetic Survey in the Balkans.	A. Schedler	1301
Characterisation of Terrestrial Magnetism.	S. Ono	1983
Earth-Current Measurement at Watheroo Observatory.	O. H. Gish	784
Potential Gradients at Ebro.	S. Chapman and T. T. Whitehead	1532
Earth's Daily Magnetic Activity, Measure of.	L. A. Bauer, C. Chree	1003
Field, Determining Intensity of, from a Moving Support.	H. R. Grumann	1924
Magnetic Field, Origin of.	H. A. Wilson	670
Magnetism, Criterion for Anomalies in.	P. Lasareff	1300
Gravity Anomaly, Koursk, Central Russia.	P. Lasareff	3062
Horizontal Intensity, Diurnal Fluctuation of.	J. Bartels	1292
Ionisation of the Atmosphere by Electrons.	W. F. G. Swann	1251
Magnetic and Gravity Anomalies at Koursk, Russia.	P. Lasareff	782
Anomaly at Koursk.	P. Lasareff	2163
Character of the Year 1922.	G. van Dijk	669
Declination in Siberia for Different Epochs.	B. Weinberg	3066
Kew.	C. Chree	1001
Disturbance, 1924.	A. L. Cortie	2695
Disturbances, Local, Study of.	B. Weinberg	3064
East-West Paths around the Earth, Results from.	W. J. Peters	1002
Instruments and Methods of Absolute Magnetic Measurements, Comparisons of.		1000
Observations during Solar Eclipse.	J. P. Ault	2162
1923.	D. L. Hazard	2696
Phenomena in the Antarctic.	C. Chree	671
Results, 1922-1923, Agincourt and Meanook.	W. E. W. Jackson	2694
Surveys, 1922, Status of.		999
Magnetism and State of the Atmosphere, Relations between.	A. Nodon	3022

For the Explanation of this Index see p. 1154.

Terrestrial Magnetism and Electricity, continued.	
Magnetism during Solar Eclipse, 1923. J. P. Ault	3063
Meteorology, <i>see</i> separate section.	
Potential Gradient and Atmospheric Pollution. C. Chree and R. E. Watson ..	1531
Siberia, Distribution of Terrestrial Magnetism in. B. Weinberg	1586
Solar Activity and Atmospheric Electricity. L. A. Bauer	1534
Terrestrial Electric Field. C. Maurain, E. Salles and G. Gibault	3027
Electromagnetic Variations. L. A. Bauer	1585
Magnetic Disturbance, Twenty-Seven-Day Period (Interval) in.	
A. L. Cortie	3065
Magnetism and those of Gravity, Anomalies of. P. Lasareff	3061
Annual Report of Director of Department of	1937
Terrestrial Physics.	
Atomic Species and their Abundance on the Earth. F. W. Aston	1948
Crustal Movements and Temperature. H. H. Poole	226
Earth Currents, <i>see</i> section Terrestrial Magnetism and Electricity.	
Density. H. S. Washington	1096
" Distribution of. H. Jeffreys	2025
" Movement, Causes of. J. Joly	48
" Shrinkage and Diminishing Rotation. R. Stoneley	2026
" Density Distribution in. E. D. Williamson and L. H. Adams	1097
" Thermal State of. A. P. Socolow	2693
Earthquake Main Waves. K. Suda	14
" of March 15, 1923. G. Agamennone	1713
" Periodicity. H. H. Turner	2027
Earth's Interior, Elastic Constants of. B. Gutenberg	47
" Surface, Heat Escape from. J. R. Cotter	2939
Gradient Curves of Rivers, Physical Conception of. F. M. Exner	227
Longitude of Innsbruck Observatory, Determination of, with Aid of Wireless Signals from Nauen. A. Scheller	786
Magnetic Method of Geological Exploration. W. O. Hotchkiss	2452
Ocean Depths, Measurement of, by Acoustical Methods. H. C. Hayes	1987
Radiation, Penetrating. V. Oberguggenberger	1711
" (Terrestrial). Henry	779
Radiations, Earth's Penetrating, Measurements of. W. Kolhörster	1098
Rocks, Thermal Conductivity and Compressibility of. P. W. Bridgman	1063
Sea, Colour of. R. Gans	2710
Seismic Surface Waves and the Structure of the Uppermost Earth Strata.	
B. Gutenberg	2938
" Tremors, Harmonic Law of Propagation of. G. Grablovitz	1712
" Waves, and Visco-Elasticity. Nina M. Hosali	51
Seismograms. S. K. Banerji	49
Seismophysics and the Interior of the Earth. R. Yamamoto	2453
Shore Waves. H. Jeffreys	2937
Specific Gravity of the Surface Water in the Indian Ocean, Influence of Barometric Pressure on. R. B. S. Sewell	780
Tide Levels, Electrical Registration of. J. de G. Hunter	1996
" Predictor, German. H. Rauschelbach	2936
Tides and Ocean Currents. G. T. Rude	1714
" Mediterranean. R. Sterneck	1715
Victoria and Albert Lake Levels. C. E. P. Brooks	46
Thermionic and Electronic (Thermal) Emission (<i>see also</i> section Discharge).	
Deflection of Stream of Electrons by Electromagnetic Radiation. E. O. Hulburt ..	309
Electron Emission and the Gas Charge of the Metal. R. Suhrmann	941
" excited by α -Rays. A. Becker	3046
" from Hot Bodies. S. C. Roy	1879
" from Metals. S. Dushman	1878
" " O. W. Richardson	1869
" as Function of Temperature. S. Dushman	310
" from Plates Bombarded by Positive Ions. E. Badareu	1875
" from Thoriated Filaments. I. Langmuir	613
" Asymmetry of, under Influence of X-rays. W. Seitz	1188
" Theory of. S. Dushman	2314
For the Explanation of this Index <i>see</i> p. 1154.	

	Abstract Nos.
Thermionic and Electronic (Thermal) Emission (<i>see also</i> section Discharge), <i>continued</i> .	
Electrons Emitted by Hot Platinum in Hydrogen, Velocities of. H. H. Potter	315
" Emission of, under Influence of Chemical Action. M. Brotherton	1870
Emission from an Incandescent Platinum Wire in Air. A. M. Tyndall and G. C. Grindley	1880
" of Electrons from Metals in High Fields. G. Hoffmann	312
Energy of Electrons emitted from a Hot Tungsten Filament. J. F. Congdon	1255
" of Liberation of Electrons, and Kathode-fall in Glow Discharge. A. Günther-Schulze	2313
Equilibrium Theory of Electrical Conduction. A. T. Waterman	622
Glow Electronic Emission at Transition and Melting-Points. A. Goetz	605
Ions, Positive, from Hot Tungsten, Emission of. W. A. Jenkins	2136
Resonance Curves observed in Potassium Vapour. R. C. Williamson	2571
Spectra with Thermionic Discharge in Carbon Monoxide. F. Baldet	1877
Temperature, Variation of, and Electronic Emission from a Tungsten Filament made Incandescent by Alternating Current. M. Paris	3042
Theory of Positive Ions and Electrons emitted by Glowing Metals. M. v. Laue	1260
Thermionic and Photoelectric Properties of the Electro-Positive Metals. A. F. A. Young	927
" Current in Hydrogen at Low Pressure, Variations of. M. Laporte	932
" " when potassium on the Grid is illuminated. J. M. Hyatt	1545
" Emission. A. Pontremoli	612
" " from Systems with Multiple Thresholds. O. W. Richardson	3041
Thermionics, Theory of. H. A. Wilson	2315
Thermions from Alkaline Earths, Velocity of. M. Rössiger	926
Thermodynamics of Electron Emission. O. W. Richardson	1544
" of Thermionic Emission. C. Davisson	1256
Thermodynamics (<i>see also</i> section Gases).	
Adiabatics, Construction of, for Large Temperature Changes and Variations of $C_p : C_v$. F. Magyar	2096
Association, Evidence of, in Carbon Dioxide from the Joule-Thomson Effect. F. G. Keyes	2809
Chemical Equilibrium, <i>see also</i> separate section.	
Clausius-Clapeyron Equation, Nernst's Derivation of. R. Lorenz	2551
Cohesion Pressure. A. Brandt	1236
Corresponding States, Berthelot on van der Waals' Law of. Bochet	1518
" Temperatures for Solid Bodies. A. Brodsky	2994
Curves of State between Arbitrary Boundary Curves with Applications to Water, Carbon Dioxide and Air, Changes of. V. Fischer	1848
Dissociation under a Temperature Gradient. P. A. M. Dirac	2624
Electron Emission, Theory of. S. Dushman	2314
Energy Conveyed by a Flowing Gas. S. Weber	2547
" of Liberation of Electrons, and Kathode-Fall in Glow Discharge. A. Günther-Schulze	2313
Entropy in a Monatomic Perfect Gas. E. Fermi	1517
" of Diatomic Gases and Rotational Specific Heat. R. C. Tolman and R. M. Badger	910
" of Real Gases, Absolute Value of. V. Njegovan	2299
" Absolute, and Chemical Constants of Polyphase Gases. J. K. Syrkin	2554
" Is the Notion of, Particularly Abstract? L. Décombe	1241
Equation of State for Pure Nitrogen, Gas Phase. L. B. Smith and R. S. Taylor	117
" " of a Gas. J. E. Jones	2298
" " Differential Form of. V. Fischer	116
" " Proposed Empirical, for Fluids. S. Lees	1234
Equations of Movement of a Gas. Y. Rocard	2296
Flow of Compressible Fluids, treated dimensionally. W. N. Bond	3006
Gas Degeneration (Gasentartung) and the Zero-Point Energy, Theory of. K. Bennewitz	2805
Heat-Equilibrium in Radiation Field in Presence of Matter. S. N. Bose, A. Einstein	2752
" Equilibrium of Gas in a Gravitational Field. P. Ehrenfest	120
Internal Pressure and Molecular Sphere of Action. W. Herz	217
Joule-Thomson Effect in CO_2 . E. S. Burnett	1514
Mercury, Equation of State and Compressibility of. K. K. Järvinen	1850
For the Explanation of this Index <i>see</i> p. 1154.	

- Thermodynamics** (*see also* section Gases), *continued*
- Molecules in a Fluid, Mean Distance between. C. V. Raman 1997
- Nernst Heat Theorem. W. H. van de S. Bakhuyzen 2640
- Perpetual Motion, Cases of. R. v. Dallwitz-Wegner 906
- Phase Boundary Potentials, Thermodynamic, Theory of. E. Abel 2630
- Quanta, the Kinetic Theory of Gases, and the Principle of Fermat. L. de Broglie 576
- Quantic States, Probability of. E. Fermi 2129
- Quantum States, Probability of. E. Fermi 2553
- Theory of Monatomic Perfect Gases. G. Schay 2555
- of Vapour Pressure and of Dissociation. D. Enskog 574
- Reciprocal Theorem, Physical Foundation of. W. Jazyna 3005
- Second Law of Thermodynamics, Limitation of. J. W. Fisher 1852
- E. E. Witmer 909
- Solids, Internal Pressures of. T. W. Richards 2546
- Specific Heat C_v , the Internal Energy U , and the Equation of State of a Body. W. Jazyna 2291
- Statistical Entropy and Molecular Number. L. Nordheim 2811
- Superficial Solutions, Extension of Gas Law to. A. Marcelin 2610
- Thermal Energy of Electrons in Metals. E. D. Eastman, A. M. Williams and T. F. Young 2128
- Transpiration, Thermodynamics of, and of the Thomson Effect. E. H. Kennard 1851
- Thermionics, Theory of. H. A. Wilson 2315
- Thermodynamic Phase Boundary Potentials, Theory of. E. Abel 3007
- Surface for Water. A. Brandt 1235
- Third Law of Thermodynamics, Statement of. E. D. Eastman 1240
- Vapour Tension Equation at Low Temperatures. V. Fischer 2297
- Vector Representation in Thermodynamics. A. Lartigue 2552
- van der Waals' Equation and Trouton's Formula. A. Brandt 1231
- Corrected for the Quasi-Contraction of the Molecules from the Isothermals for Hydrogen, Verification of. E. A. Holm 1229
- Law of Corresponding States. D. Berthelot 1232
- L. Bochet 1233
- Vapour-Pressure Equation, and Molecular Diameters. S. P. Owen 1230
- Thermo-Electricity and Thermo-Magnetism**
- Alkali Metals, Electrical Resistance and Thermoelectric Power of. C. C. Bidwell 1909
- Benedicks' Thermoelectric Effect in Vacuum. E. Rumpf 638
- Bismuth Alloys, Thermoelectric Properties of. C. R. Darling and R. H. Rinaldi 2591
- Change of Thermoelectric Force of Iron, Nickel, and Cobalt with Time, after Drawing and Magnetisation. J. Thiele 664
- Contact P.D. between Metals Glowing in Vacuo. R. Vieweg 2310
- Potentials, Metal, and Peltier Effect, Relation between. J. A. V. Butler 3053
- Equilibrium Theory of Electrical Conduction. A. T. Waterman 622
- Films, Sputtered, of Gold, Platinum and Palladium, Thermoelectric Properties of. R. M. Holmes 633
- Hall Effect and Thermoelectric Power. P. Raethjen 1566
- Iron, Dependence of Thermoelectric Force of, on its Structure. W. Heraeus 1910
- Thermoelectric Force of. G. Borelius 2593
- Measurements, *see* separate section.
- Molybdenite, Thermoelectric and Actinoelectric Properties of. W. W. Coblenz 2592
- Nickel Alloys, Thermoelectric Investigation of. W. Rohn 2838
- Oxygen, Hydrogen and Helium, Magnetic Susceptibility of. A. P. Wills and L. G. Hector 1936
- Platinum and Platinum-Rhodium Alloy for Thermocouples, Preparation of. R. P. Neville 1911
- Tension, Effect of, on Change of Resistance and Thermoelectromotive Force by. Transverse Magnetisation. A. W. Smith 321
- Thermocouples, Contamination of. O. A. Hougen and B. L. Millern 325
- Thermoelectric Effect with Change of Section. L. Pechinger 637
- Effects in Homogeneous Conductors. A. N. Shaw 1568
- Thermomagnetic Phenomenon. P. Weiss and R. Forrer 1935
- and the Specific Heat of Nickel. P. Weiss and R. Forrer 1934

For the Explanation of this Index *see* p. 1154.

Thermo-Electricity and Thermo-Magnetism, continued.	
Thomson Effect. M. D. O'Day	1837
..... and Thermal Transpiration, Thermodynamics of. E. H. Kennard	1851
Thermometry, Pyrometry and Calorimetry.	
Apparatus, <i>see</i> separate section.	
Calorimetric Method of Surveying the Behaviour of Steam. N. S. Osborne ..	893
Colour Temperature Measurement. O. Reeb	889
Fluids, Saturated, Calorimetry of. N. S. Osborne	1836
Heat-Production by Thermopile and Galvanometer, Measurement of Small Rates of. W. Hartree	2541
Mechanical Stirrer, Chemical Method for testing Efficiency of. W. A. Roth ..	2400
Micro-Calorimeter, Measurement of Small Sources of Heat by. A. Tian	1507
Pyrometer of the Disappearing Filament Type. F. H. Schofield and D. C. Gall ..	2123
....., Optical, Diffraction Effects in. C. O. Fairchild and W. H. Hoover ..	111
Pyrometry Radiation. H. Schmidt	1840
Thermocouples, Contamination of. O. A. Hougen and B. L. Miller	325
Thermometer Calibration. E. Schottländer	888
Thermometers, Leaky Calorimetric Resistance, Repair of. J. D. Davis and H. M. Cooper	2542
Thermostat Regulator. E. Schreiner, J. Holtsmark and B. Trumpp	2408
Thread Recorder, Uses of. J. L. Haughton and W. T. Griffiths	1922
Vapour Pressure.	
Cadmium, Vapour Pressure of, and its Alloys with Zinc. A. C. Egerton and F. V. Raleigh	903
Cæsium and Rubidium, Vapour Pressures of, and their Chemical Constants. D. H. Scott	902
Carbon, Solid, Vapour Tension of. J. J. van Laar	2548
Evaporation of Liquids. T. B. Hine	2293
Graphical Vapour Pressure and Specific Gravity Tables. H. G. Deming	2398
Halogen Hydrides, Vapour Pressures and Crystal Structure of. F. A. Henglein ..	291
Lithium Chloride Solutions at 20° C., Vapour Pressures of. B. F. Lovelace, W. H. Bahlke and J. C. W. Frazer	1222
Monatomic Elements, Vapour Pressure of. R. W. Miller	1223
Nitric Oxide, Vapour Pressure of. H. Goldschmidt	904
Paraffin Hydrocarbons, Properties of. R. E. Wilson and W. H. Bahlke	1508
Partial Pressures of Sulphuric Acid. J. S. Thomas and A. G. Ramsay	898
Pressure of Saturated Vapour at Very Low Temperatures, and Heat of Vaporisation. A. Brandt	1224
Quantum Theory of Vapour Pressure and of Dissociation. D. Enskog	874
Saturation-Vapour Concentration of Liquids, Influence of Indifferent Gases on. F. Pollitzer and E. Strebel	2545
Sodium Chloride Solutions, Vapour Pressure and Density of. W. R. Bousfield and C. Elspeth Bousfield	572
Sucrose Solutions, Vapour Pressures of. E. P. Perman and H. L. Saunders	161
Vapour Pressure and Vapour Composition in Binary Mixtures. W. K. Lewis and E. V. Murphree	1225
..... Pressures and Composition of Vapour of Aqueous Solutions of Hydrochloric and Hydrobromic Acids at Different Temperatures. M. Wreowsky, N. Sawaritzky and L. Scharloff	3003
Viscosity.	
Coefficient of Viscosity of Helium and the Coefficients of Slip of Helium and Oxygen by the Constant Deflection Method. M. N. States	191
Colloidal Solutions, Viscometry of. W. Ostwald	2606
Gases at Low Temperatures, Viscosity of. P. Günther	2389
Glasses, Soda-Lime-Silica, at High Temperatures, Viscosities and Surface Tensions of. E. W. Washburn, G. R. Shelton and E. E. Libman	2893
Kinetic Theory of Viscosity, Conduction and Diffusion. S. Chapman and W. Hainsworth	2810
Liquid Mixtures showing Maxima, Viscosity of. D. B. Macleod	189
Measurements, <i>see</i> separate section.	
Monovalent Salts of Higher Fatty Acids in Organic Solvents, Viscosities of. M. Prasad	2892
Motion of Oil Drops in Carbon Dioxide, Oxygen and Helium. J. M. Eglin ..	381

For the Explanation of this Index see p. 1154.

Viscosity, continued.

Oils at High Temperatures, Viscosity of. A. R. Fortsch and R. E. Wilson	2891
Rubber (dissolved), Viscosity of, in Benzene. O. de Vries	2651
Saybolt Viscosity Measurements and their Control. P. E. Klopsteg and W. H. Stannard	181
Steam, Viscosity of. H. Speyerer	733
Sulphuric Acid, Potassium and Sodium Hydroxides, Viscosities of Mixtures of. L. J. Simon	1655
Temperature on Properties of Metals, Effect of. A. Mallock	1835
Viscometers, Capillary tube. G. Barr	1342
Viscosities of Liquids correlated to Pendulum Dampings. E. H. Barton and H. M. Browning	1341
Viscosity and Elasticity of Colloidal Solutions. H. Freundlich and Emmy Schalek	2173
" and Fluorescence. F. Perrin	2495
" of Liquid and its Coefficient of Expansion. D. B. Macleod	188
Viscous Flow of Plastic Material. B. Marzetti	1367
Water-Vapour, Viscous Properties of. C. J. Smith	2890

Vision.

Accommodative Reflex of Eye. A. Polack	58
Brightness and Speed of Retinal Impression. P. W. Cobb	60
Colorimetry, <i>see also</i> section Absorption (Light)	
Colour-Blindness, Investigating. R. A. Houstoun and W. H. Manson	458
" Vision. F. Exner	1126
" " Resonance Theory of. F. Aigner	821
Compton Effect, Spectrographic Investigation of. A. Dauvillier	2750
Depth, Perception of (Stereoscopic Visual Acuity). H. Kellner	462
Excitation of the Retina by Brief Illuminations. H. Piéron	1421
Faintest Visible. G. Jaekel	1127
Fatigue in Different Regions of the Spectrum. E. Haas	820
Glare, Particularly by Headlights. G. Gehlhoff and H. Schering	487
Limiting Perception of Luminous Flashing Signals, Law of. A. Blondel and J. Rey	2476
Mercury-Vapour Lamps, Physiological and Photographic Effects of. M. Leblanc and Broca	1142
Microscopes, High-Power Transparent Illumination for. C. Beck	2723
Nervous System, Optics of. L. T. Troland	1761
Ocular Functions, Important, Effect of Composition of Light on. C. E. Ferree and G. Rand	2478
Perception of Brief Illuminations, Law of. A. Blondel and J. Rey	1128
Red-Blind Colour System, Determinations of Brightness in. F. Exner	241
Reflex Visual Sensations. F. Allen	1419
" " " M. S. Hollenberg	2720
" " " and Anomalous Trichromatism. W. A. Anderson	2721
Self-Light of the Retina, Reflex Origin of. F. Allen	1422
Spectral Complementaries, Normal Colour Sense. R. H. Sinden	1417
Speed of Vision. P. W. Cobb	1420
Stereoscopic Vision. J. W. French	459
Twilight Sight with Telescopes. K. Krüger and J. Zenneck	819
Vertical Vision, Measurement of. A. Wigand and K. Genthe	2213
Visibility Curves. T. Ōtashiro	57
" of Red Light. R. A. Houstoun and W. M. Heddle	245
" Measurement of. A. Wigand and K. Genthe	2043
Vision. F. Allen	1855
" and the Technique of Art. A. Ames, Jr., C. A. Proctor and B. Ames	1762
Visual Acuity, Limits of. T. Y. Baker	69
" Fatigue, Effect of Colour of Light on. O. Schneider	2477
" Space, Theory of. K. Horovitz	240

X-Rays.

Absorption Coefficient. P. Kirkpatrick	540
" Coefficients of Rh and Mica for K Radiation. E. C. Unnewehr	1192
" Measurements of the β -Rays reflected from Calcite. Y. H. Woo	1817
" of X-Rays. K. A. Wingårdh	541

For the Explanation of this Index *see* p. 1164.

SUBJECT INDEX.

1237

Abstract Nos.

X-Rays, continued.

Absorption of X-Rays by Iron, Cobalt, Nickel and Copper. F. K. Richtmyer and F. W. Warburton	1187
" of X-Rays, Effect of Magnetic Field on. J. A. Becker	539
" X-Ray, Theory of, and X-Ray Spectrum. H. A. Kramers	863
Apparatus, see separate section.	
Application, Technical, of X-Rays, with especial Reference to Iron. K. A. Sterzel	1813
Atom and X-Rays. O. Lodge	1074
β - and δ -Rays from Metallic Film, Emission of, and Relation to Quantum Theory of Scattering of X-Rays. L. Simons	2985
Bromine X-Radiation, Reflection of, by a Crystal of Potassium Bromide. S. K. Allison and W. Duane	2745
Carbon, Soft X-Rays from. P. I. Lukirsky	1181
Catalysis, Platinum, Action of X-Rays upon. R. Schwarz and M. Kilgenfuss	1007
Cellulose, X-Ray Spectrographic Observations with. H. W. Gonell	2788
Change in Wave-length by Scattering. P. A. Ross	282
Characteristic X-Rays, Excitation of, from Aluminium, Iron, Nickel, Copper and Zinc. F. Horton, Ursula Andrewes and Ann C. Davies	871
Compton Effect. M. de Broglie and A. Dauvillier	2758
" Spectrographic Investigation of. A. Dauvillier	2759
Condenser Apparatus for Röntgen Requirements, Theory of. M. Jona	3023
Consumption of Energy when Air is Ionised by X-Rays. L. Grebe	2316
Copper-Aluminium Alloys, X-Ray Studies of. E. R. Jette, G. Phragmén and A. F. Westgren	2790
Corpuscular Radiation excited by X-Rays. C. G. Barkla and (Miss) A. E. M. M. Dallas	874
Crystal Analysis by Diffraction of X-Rays. R. A. Patterson	2527
" Powder Analysis by X-Rays. J. Brentano	546
" Structure by X-Rays, Analysis of. W. H. Bragg	2907
Diffraction Images, X-Ray of Slits. B. Walter	2787
" of X-Rays in Liquids, Fluid Crystals and Amorphous Solids. C. V. Raman and K. R. Ramanathan	1189
" Patterns, X-Ray, for Benzene. E. D. Eastman	1684
Diffusion of X-Rays. M. and L. de Broglie	1183
" " and Bragg's Law. F. Wolters	545
" " Change of Wave-length by. E. Bauer	864
" " Theory of. E. Bauer, P. Auger and F. Perrin	865
Disruptive Discharge, Influence of X-Rays on. G. Hammershaimb	281
Doses, Röntgen-Ray, Standardising of. H. Behnken	861
Dosimeter for Penetrating X-Rays. A. Dauvillier	862
Electron Emission, Asymmetry of, under Influence of X-Rays. W. Seitz	1188
Filtration of X-Rays. P. Lamarque	543
Fine-Structure of Hydrogen, Ionised Helium and X-Rays. E. Lau	1478
Fluorescence, Ultra-Violet, by X-Rays: Spectrographic Study. J. O. Perrine	537
" X-Ray, and the Comparison of the Intensity of X-Rays. W. Kossel	873
Fluorescent Zinc Sulphate and X-Rays. A. Schleede and A. Gruhl	872
Fraunhofer Diffraction, Quantum Theory of. P. S. Epstein and P. Ehrenfest	1812
Geiger Counter as a Sensitive Detector of X-Radiation. H. Behnken, G. Jaeckel and W. Kutzner	859
Germanium, etc., Secondary and Tertiary X-Rays from. G. L. Clark and W. Duane	1819
Goniometer, New X-Ray. K. Weissenberg	1810
Homogeneous X-Rays between Wave-lengths 0.1 Å. and 0.71 Å., Absorption Coefficients of. S. J. M. Allen	2278
Iodine X-Ray Spectrum. G. L. Clark and W. Duane	1492
J Phenomena, and the Scattering of X-Ray Quanta. A. H. Compton	1186
K-Radiation, Characteristic, from Cr, Cn, Rh and Ag. E. C. Unnewehr	1192
K-Series of the Röntgen Spectra, Spark Lines in, and the Theory of Wentzel. E. Bäcklin	2780
Light-Elements, K-Excitation Limit of. F. J. v. Winiowski	2526
Liquid Crystals, Soap Solutions and X-Rays. J. W. McBain	2782
Low-velocity X-Ray Electrons. L. Simons	101
L-Series Absorption Spectra of the Elements La (57) to Hf (72). D. Coster, Y. Nishina and S. Werner	548
Metal Films, X-Ray Examination of. W. H. Bragg	1959

For the Explanation of this Index see p. 1154.

<i>X-Rays, continued.</i>		Abstract Nos.
Nature of the Röntgen Impulse. E. H. Kennard	279	
New X-Ray Secondary Radiation. W. Bothe	98	
N-Series, Identification of Lines of. V. Dolejšek	1190	
Optical Doublets and Triplets, Absolute Intervals of. A. Landé	2503	
Oscillographic Study of X-Rays from a Coolidge Tube. J. A. Crowther	1485	
Photoelectric Ejection of an Electron from an Atom by X-Rays of Chance. G. E. M. Jauncey	2701	
Electrons Liberated by Röntgen Rays, Directions of Emission of. W. Bothe	2518	
Photographic Blackening-Law for X-Rays. E. Jönsson	2099	
Polarisation of Secondary X-Rays. A. H. Compton and C. F. Hagebow	1824	
of X-Rays and Wave-length. P. Kirkpatrick	542	
Polarised X-Rays, Direction of Ejection of Photoelectrons by. F. W. Bubb	1825	
Protective Materials, X-Ray, Measurements upon. H. Franke	1004	
Quantity of the X-Rays Excited in Hot Kathode and in Gas Tubes. H. Moore	1815	
Radiations, Production of, Intermediate between Ultra-Violet and X-Rays. G. Reboul and Bodin	2755	
Radio-luminescence and Radio-photoluminescence. K. Przibram and Elizabeth Kara-Michailova	867	
Radiometer, Clinical X-Ray Balance. L. H. Clark	2841	
Recoil Electrons by Polarised X-Rays, Distribution of. G. E. M. Jauncey	2008	
Reflection by a Crystal of its Characteristic X-Radiation. G. L. Clark and W. Duane	1492	
of the Characteristic X-Rays by a Crystal. B. Walter	538	
of X-Rays by Crystals, and Atomic Structure. D. R. Hartree	754	
from Fluorite Crystal. M. Yamada	100	
in Laue Photographs. R. W. G. Wyckoff	544	
Abnormal, of X-Rays by Crystals. G. L. Clark and W. Duane	866	
Regular, of X-Rays from Aluminium Foil, Effect of Temperature on. E. H. Collins	2520	
Selective, of X-Rays by Crystals. W. Kossel	2096	
X-Ray, Optical Theory of. P. Kirkpatrick	540	
Refraction of X-Rays in Pyrites. B. Davis and R. v. Nardroff	1486	
Relativity Röntgen Doublets, Nature of. A. Landé	2104	
Resonance, Pure Optical, with X-Rays. G. Mie	280	
Röntgen L-Doublets, and Screening Constant. J. B. Green	1494	
Light and its Application to the Determination of the Crystal Lattice. R. Schachenmeier	414	
Scattered Röntgen Rays. W. Friedrich and M. Bender	1823	
X-Rays. P. A. Ross	2784	
from Rock-salt, Intensity of. G. E. M. Jauncey and H. L. May	1821	
X-Rays, Hardness Distribution of. F. Dessauer and R. Herz	2981	
Recoil, of Electrons from. A. H. Compton and J. C. Hubbard	1489	
Scattering of Polarised X-Rays, Quantum Theory of. G. E. M. Jauncey	1811	
of X-Ray Quanta and the J Phenomena. A. H. Compton	1186	
of X-Rays. A. H. Compton	2785	
by Free Electrons. K. Försterling	2783	
of X-Rays. I. Maizlish	2100	
and Bragg's Law. G. E. M. Jauncey	1488	
by Hydrogen. G. A. Schott	1822	
by Light Elements. G. E. M. Jauncey	535	
Change of Wave-length accompanying. A. H. Compton	534	
Necessary Consequence of Compton Effect and its Confirmation. L. Meitner	1490	
of X- and γ -Rays by Rings of Electrons. G. A. Schott	1103	
the K-Radiation of Tungsten, Change of Wave-length by. M. de Broglie	1487	
Screening Constant, and Röntgen L-Doublets. J. B. Green	1494	
Secondary and Tertiary X-Rays. G. L. Clark, W. Duane and W. W. Stifler	1820	
from Germanium, etc. G. L. Clark and W. Duane	1819	
Corpuscular Rays by X-Rays. H. Robinson	868	
Radiation, New, of X-Rays. W. Bothe	870	

For the Explanation of this Index see p. 1184.

X-Rays, continued.	
Secondary X-Rays. J. A. Gray	1818
" Characteristic, Excitation, Reflection and Utilisation in	
" Crystal-Structure Analysis of. G. L. Clark	1185
" X-Rays, Polarisation of. A. H. Compton and C. F. Hagenow	1824
" Wave-lengths of. G. L. Clark and W. Duane	800
Selenium Cells, Sensitiveness of, to X-Rays of Different Wave-lengths. H. Küstner	3094
Soft X-Rays from Carbon. P. I. Lukirsky	1181
Spectra, X-Ray and Structure of the Atom. L. de Broglie and A. Dauvillier	1683
Spectral Energy Distribution within the X-Ray Tube. P. Kirkpatrick	536
Series in the Soft X-Ray Region. G. K. Rollefson	1495
Spectrum-Lines, X-Ray, at High Voltages, Intensity of. G. Kettmann	549
" of Scattered X-Rays. A. H. Compton	551
" Continuous X-Ray, for Different Discharge Frequencies. A. Karolus	550
" X-Ray and Theory of X-Ray Absorption. H. A. Kramers	863
Stress-Strain Problems by Means of X-Rays, Study of.	757
Tertiary Line Spectra in X-Rays. D. L. Webster	2101
Radiation produced by Impacts of Photoelectrons. G. L. Clark	
and W. Duane	2102
" X-Radiation. G. L. Clark and W. Duane	1491
" X-Rays. S. K. Allison and W. Duane	2097
" G. L. Clark	1185
Theory of Bohr, Kramers and Slater, Method of Testing experimentally.	
W. Bothe and H. Geiger	2525
Thorium M-Series Lines, Critical Potentials of. P. A. Ross	526
Tungsten M-Series. R. Thoraes	2779
Soft X-Rays from. C. B. Bazzoni and C. T. Chu	1493
Wave-length of Scattered X-Rays. H. Kulenkampf	532
of X-Rays, Direct Determination of. L. Puccianti	858
Wave-lengths of X-Rays under Diffusion, and Bragg's Law. E. Friedel and	
F. Wolfers	1184
X-Ray Absorption Spectra of Potassium and Calcium. A. E. Lindh	2107
Analysis of Coal. C. N. Kemp	1065
" of Materials. F. Körber	99
" of Solid Solutions. E. A. Owen and G. D. Preston	1031
" of Zinc-Copper Alloys. E. A. Owen and G. D. Preston	1032
and Crystal Analysis, Rotating Crystal Method of. M. Polányi,	
E. Schiebold and K. Weissenberg	2110
" and Radium Protection Committee Revised Report No. 1	1182
" Crystal Analysis in Metallurgy. E. C. Bain	2528
" Examination of Materials. A. G. Warren	2638
" of Metals. W. J. Wiltshire	547
" L-Absorption Spectrum of Iodine. J. G. Tandberg	2108
" Phosphorescence. J. A. Bearden	2786
" Production. J. A. Crowther	1814
" Spectra. A. Dauvillier	2106
" of Hafnium and Thulium. D. Coster	283
" of the L-Series of the Elements. H. Hirata	1191
" N-Series of. V. Dolejšek	1193
" Spectroscopy. J. R. Katz	2781
" Spectrum, Continuous Quantum Theory of. G. Wentzel	2978
" " Spark Lines in. G. Wentzel	1816
" Sphere, Absorption Spectra in. D. Coster	2521
X-Rays in Chemical Investigations, Use of. H. Stintzing	2529
" in Iron Pyrites, Refraction of. R. v. Nardroff	2523
" Diffraction of, by Narrow Slits. B. Walter	2979
" Reflection of. N. Carrara	2980
" Scattering and Real Absorption Coefficients of. M. Blau and K.	
Altenburger	2524
" Soft. J. C. Boyce	2105
" Total Reflection of. N. Carrara	2522
Zeeman-Effect and Radiation in an Electric or Magnetic Field.	
Compounds of H ₂ . Intensity Distribution of. E. Gehrcke and E. Lau	2751
Coordination of the Complex Structure Terms in Strong and Weak External	
Fields. W. Pauli, Jr.	1163

For the Explanation of this Index see p. 1154.

Zeeman-Effect and Radiation in an Electric or Magnetic Field,	
<i>continued.</i>	
<i>em</i> by the Zeeman-Effect, Determination of. H. D. Babcock	531
Glow Discharge, Transverse Magnet Field at Cathode of. A. Günther-Schulze	2137
Hydrogen Atom in Intersecting Electric and Magnetic Fields. O. Klein	1380
" " Influence of Crossed Electric and Magnetic Fields on Spectrum of. O. Halpern	515
Magnetic Field and Polarisation of Canal-Ray Light. R. v. Hirsch	2747
" " Rotatory Polarisation, <i>see</i> section Polarisation.	
Multiplets of Higher Degree, Structure of. A. Landé and W. Heisenberg	2066
" " Theory of, and their Zeeman-Effect. A. Sommerfeld	1180
Oxygen in the Magnetic Field, Modification of Band 3064 of. R. Fortrat	1790
Paschen-Back Effect in the H Atom. H. Falkenhagen	2749
Quantum Numbers, Half-Integral, in the Theory of the Stark Effect. A. M. Mosharrafa	2506
" " Theory of the Normal Zeeman-Effect. O. Halpern	529
Refractive Index of Liquids in an Electric Field, Isotopic Increase of. Pauthenier	2238
" " Resonance Radiation of Vapours, Polarisation of. P. Pringsheim	2085
" " Sodium, Polarisation of in Magnetic Fields. E. Gaviola and P. Pringsheim	2497
Spectral Lines in Electric and Magnetic Fields. N. Bohr	276
" " Electrical Decomposition of. A. Carrelli	840
Spectroscopy, Magnetic and Electric. W. Arkadiew	2760
Stark Components of the 4388 Line. J. S. Foster	1429
" " Effect. J. S. Foster	2277
" " for Strong Fields. A. M. Mosharrafa	277
" " Inverse. R. Ladenburg	2973
Term Structure and Zeeman-Effect of Multiplets, Part II. A. Landé	528
Tesla Luminescence Spectra. W. H. McVicker, J. K. Marsh and A. W. Stewart	278
Vanadium Multiplets and Zeeman-Effect. W. F. Meggers	2504
Zeeman-Effect for Chromium. H. Gieseler	1475
" " and Iron. H. Gieseler and W. Grotian	1474
" " in Strong Magnetic Fields. P. Kapitza and H. W. B. Skinner	2967
" " of H ₂ and H ₂ . K. Försterling and G. Hansen	530
" " Approximation to Quantum Theory of. A. M. Mosharrafa	82
" " Spectrophotometry of, in Very Weak Magnetic Fields. W. Mohammad	2792
" " Effects, Anomalous. W. Heisenberg	2789
" " For the Explanation of this Index see p. 1154.	

Printed in Great Britain by

UNWIN BROTHERS, LIMITED, LONDON AND WOKING